

**Safe Harbor Agreement
for the
OX Ranch
Bear, Idaho,
for
Northern Idaho Ground Squirrels
(*Spermophilus brunneus brunneus*)**

Prepared by:

**Northwest Natural Resource Group, LLC
and the
U.S. Fish and Wildlife Service --
Idaho Fish and Wildlife Office, Boise, Idaho**

July 2009

1. Introduction

This Safe Harbor Agreement (Agreement) is between Hixon Properties Incorporated, owner, Rocky Comfort Cattle Company, LLC, lessee, plus affiliated business entities doing business as the OX Ranch collectively (collectively referred to as Cooperator), the Idaho Department of Fish and Game (IDFG), and the U.S. Fish and Wildlife Service (Service) (collectively referred to as Agencies); collectively referred to as the Parties. The purpose of this Agreement is to help meet the recovery goals for the northern Idaho ground squirrel (*Spermophilus brunneus brunneus*) as specified in the "Recovery Plan for the Northern Idaho Ground Squirrel" prepared by Region 1 of the Service, and approved July 28, 2003 (Service 2003). The species was listed as "threatened" in April, 2000. This Agreement follows the Service's Safe Harbor Agreement policy (64 FR 32717) and regulations (64 FR 32706), both of which implement section 10(a)(1)(A) of the Endangered Species Act of 1973, as amended (Act).

2. Covered Species

This Agreement covers the northern Idaho ground squirrel (*Spermophilus brunneus brunneus*), which is hereafter referred to as the "covered species."

3. Authority and Purpose

Sections 2, 7, and 10 of the Act allow the Service to enter into this Agreement. Section 2 of the Act states that encouraging interested parties, through federal financial assistance and a system of incentives, to develop and maintain conservation programs is a key to safeguarding the nation's heritage in fish, wildlife, and plants. Section 7 of the Act requires the Service to review programs that it administers and to utilize such programs in furtherance of the purposes of the Act. By entering into this Agreement, the Service is utilizing its endangered species and related programs to further the conservation of the nation's fish and wildlife resources.

Section 10(a)(1) of the Act authorizes the Service's issuance of enhancement of survival permits (hereinafter referred to as the "Permit") for listed species. This Agreement is entered pursuant to the Service's Safe Harbor Agreement final policy (64 FR 32717), final regulations (64 FR 32706), and revisions to the regulations (69 FR 24084), and implements the intent of the Parties to follow the procedural and substantive requirements of section 10(a)(1)(A) of the Act. The Permit for which the Cooperator has applied, has been applied for in good faith. If granted, it is expected to provide a net conservation benefit for the covered species by enhancing and potentially increasing existing habitat within the enrolled lands, creating an opportunity to increase their numbers, and providing insurance against the loss of the species in the area as a result of habitat loss or other factors. The Agreement and Permit are consistent with the purposes and policies of the Act and are expected to further the conservation of the covered species in a manner consistent with the recommendations and strategies contained in the recovery plans for this species.

4. Duration of the Agreement and Permit

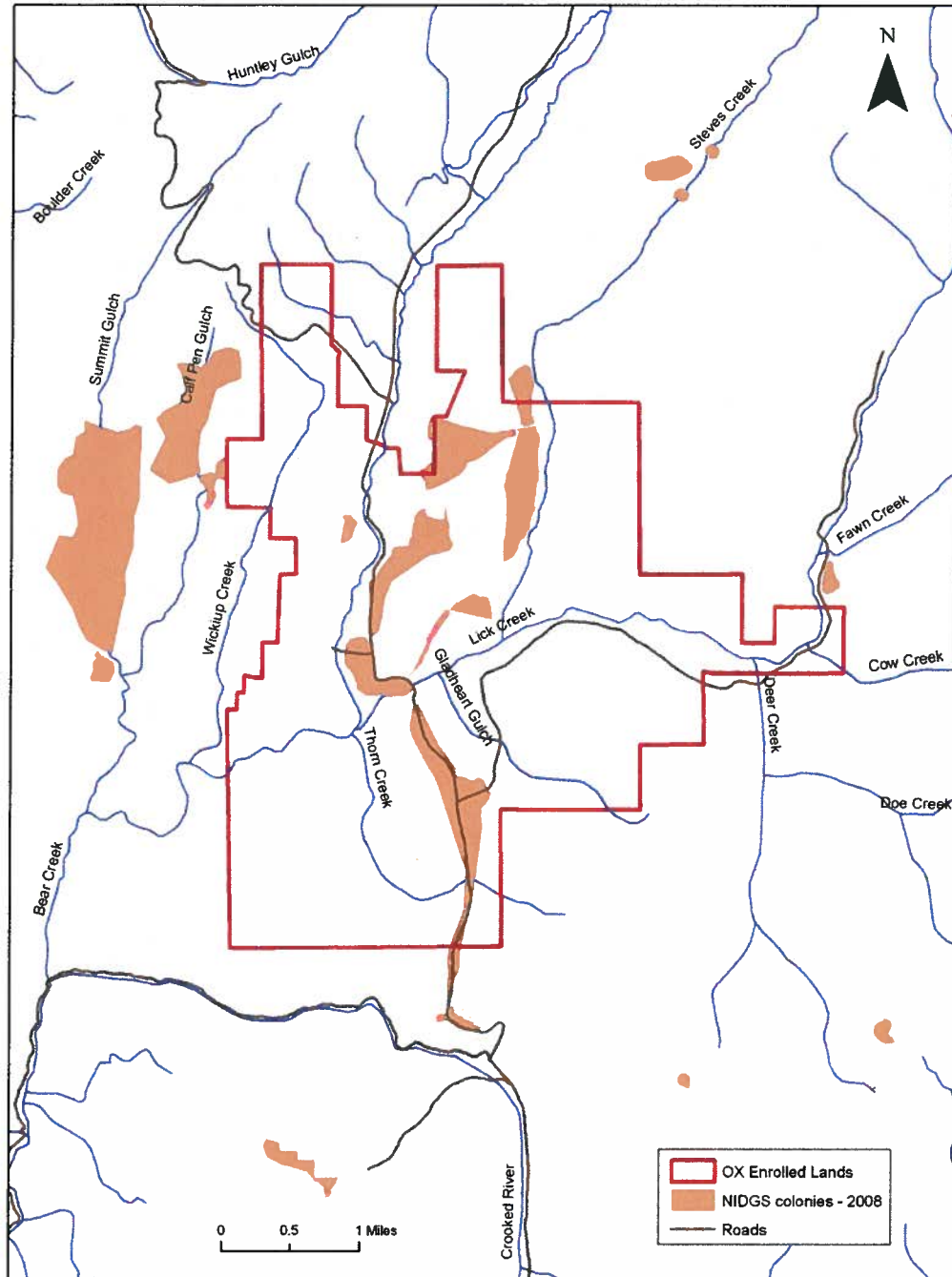
This Agreement becomes effective upon issuance by the Service of a Section 10(a)(1)(A) Permit described in Part 11 hereof, and will be in effect for ten (10) years and may be renewed for such a term as may be agreed upon by the Parties near the end of the initial 10 year term. The Permit will remain in effect for fifteen (15) years. The additional five years of Permit duration beyond the term of the Agreement will allow the Cooperator to continue with routine ranching operations without actively maintaining habitat for the covered species. If individuals of the covered species are incidentally taken by routine ranching operations during this time, the Cooperator would not be liable for Section 9 prohibitions on the enrolled property. The additional five years of permit duration will also allow the Cooperator that amount of additional time to return the enrolled lands to the baseline condition, should such a change be desired.

5. Description of the Enrolled Lands and Covered Activities

The OX property lies from the town of Bear, Idaho, down to Hells Canyon Idaho and includes approximately 5,991 hectares (ha) (14,805 acres (ac)). Approximately one-half of this area includes lower elevation sites in areas where there are no currently documented northern Idaho ground squirrel colonies. Existing colonies of northern Idaho ground squirrels within the OX Ranch are located only within the 3,150 ha (7,783 ac) parcel generally south of Bear and along Lick Creek, Bear Creek, and Steve's Creek (Figure 1).

The parcels enrolled under this Agreement total 3,150 ha (7,783 ac) of privately owned lands, ranging in elevation from approximately 1,219 to 1,402 meters (4,000 to 4,600 feet). This is the sole portion of the OX ownership to be enrolled under this Agreement, unless previously unknown colonies are discovered on other parts of the OX lands, in which case this Agreement may be amended to include those lands as part of the Agreement. It is generally open country, with scattered stands of mixed conifers, primarily Ponderosa pine (*Pinus ponderosa*) and Douglas-fir (*Pseudotsuga menziesii*).

Figure 1. The Enrolled Lands for the OX Ranch Safe Harbor Agreement in Adams County, Idaho.



According to Idaho's GAP data, the parcel includes these cover types (U.S. Geological Survey, GAP Analysis of Idaho, 2002):

Table 1. Cover types on the OX Ranch.	
GAP Cover Type	Acres
Agricultural Land	433
Basin and Wyoming Big Sagebrush	6
Bitterbrush	1014
Disturbed	72
Douglas-fir	36
Foothills Grassland	266
Low Sagebrush	2354
Mixed Xeric Forest	437
Montane Parkland, Subalpine Meadow	22
Mountain Big Sagebrush	881
Perennial Grass Slope	476
Perennial Grassland	46
Ponderosa Pine	1182
Shrub Dominated Riparian	469
Warm Mesic Shrubs	90
Total	7,784

The OX Ranch is a working cattle ranch and has been so for many years. Grazing takes place from March to December, with approximately 1,000 cow/calf pairs, 250 replacement heifers or dry cows and 45 bulls grazing within the portion of the ranch covered by this Agreement. In addition, 30 horses use it for approximately 9 months. Approximately 175 ha (432 ac) are used as irrigated pastures which are grazed during the spring and summer months. The land is fenced into a number of pastures, with an accompanying rest/rotation system for grazing. Appendix B includes seasons of use and stocking levels for the various pastures.

The OX Ranch has recently adopted a long-term timber management plan (Appendix A) which envisions numerous logging operations and silvicultural treatments to maximize timber values on the property. Implementation of the projects envisioned in this plan provides an excellent opportunity to conduct additional thinning and burning operations that will result in long-term habitat enhancement that will benefit northern Idaho ground squirrels. It is anticipated that conducting thinning and burning operations at the edges of potentially suitable habitat identified by the habitat modeling exercise will allow northern Idaho ground squirrels to occupy these sites, particularly if there are colonies nearby. Because the OX Ranch is located in a relatively arid climate, it is expected that the vegetation removed by the thinning and burning operations will not regrow and reclaim the areas within the 10-year period of this Agreement.

In addition, the ranch operation includes recreational activities for guests who stay at the Seven Devils Lodge or in various guest houses, including snowmobiling in the winter, summer trail rides, and fishing and guided hunts during appropriate seasons. This is a growing component of the OX Ranch's operation.

Management actions involved in ranch operations that may impact or result in take of northern Idaho ground squirrels are discussed in detail in section 8 below. The only “take” that will be authorized by this Agreement and associated Permit is take of northern Idaho ground squirrels or identified habitat that is above the identified baseline condition of the enrolled lands and that is incidental to otherwise lawful activities. It is important to note that any such take may or may not ever occur.

6. Status of the Species and Background

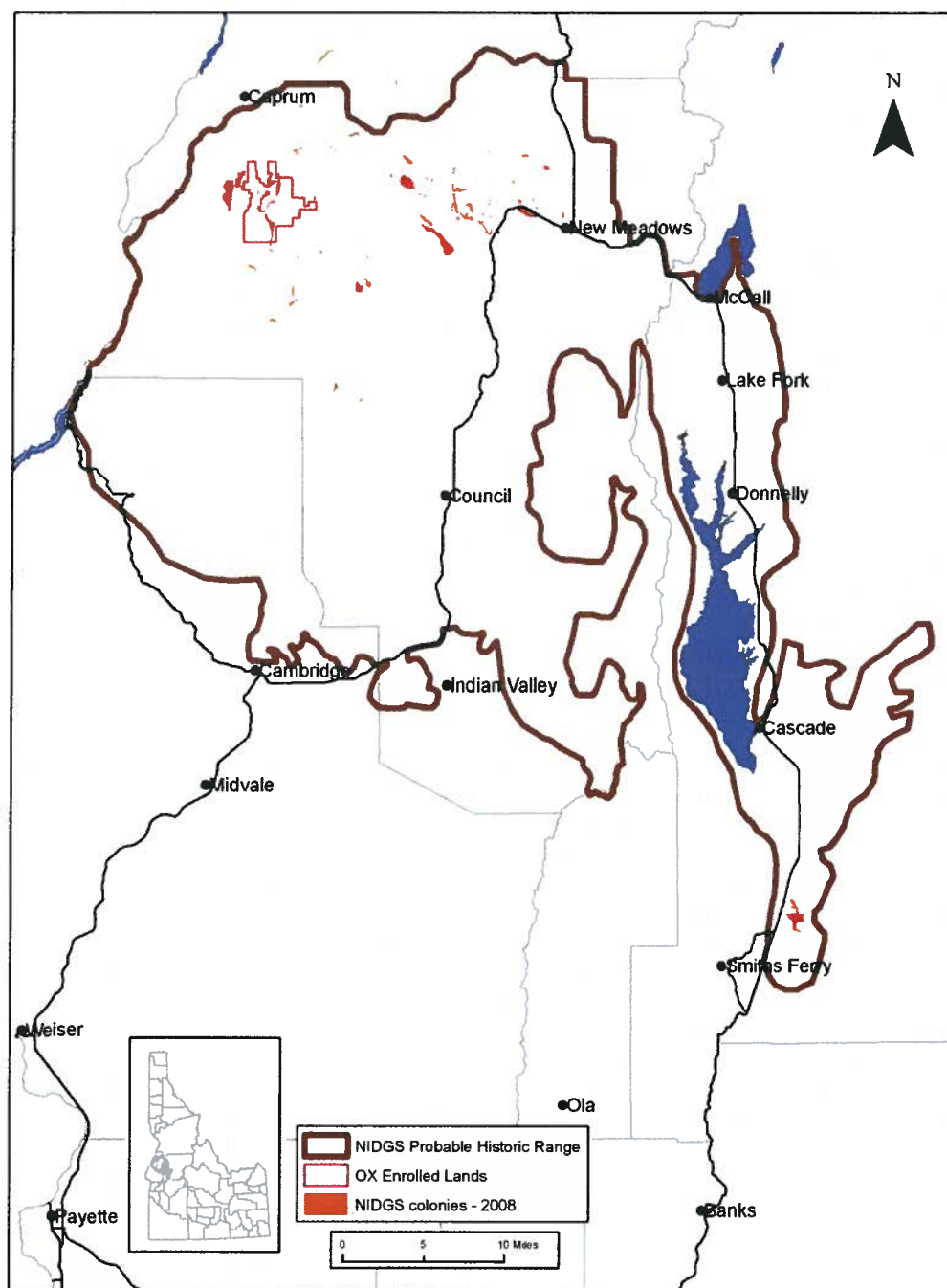
A. Northern Idaho Ground Squirrel Natural History

Note: The following five paragraphs are excerpted from the Northern Idaho Ground Squirrel Recovery Plan (Service 2003).

The northern Idaho ground squirrel is a relatively small member of the genus *Spermophilus*; the mean lengths of the male and female are 23.4 centimeters (9.2 inches) and 22.6 centimeters (8.9 inches), respectively. The pelage (fur) of northern Idaho ground squirrels on the dorsal area appears dark reddish-gray as the result of a mixture of black unbanded and yellowish-red banded guard hairs. The subspecies’ eye ring is buffy-white. The northern Idaho ground squirrel has the most restricted geographical range of any *Spermophilus* species, and one of the smallest ranges of any North American mammal.

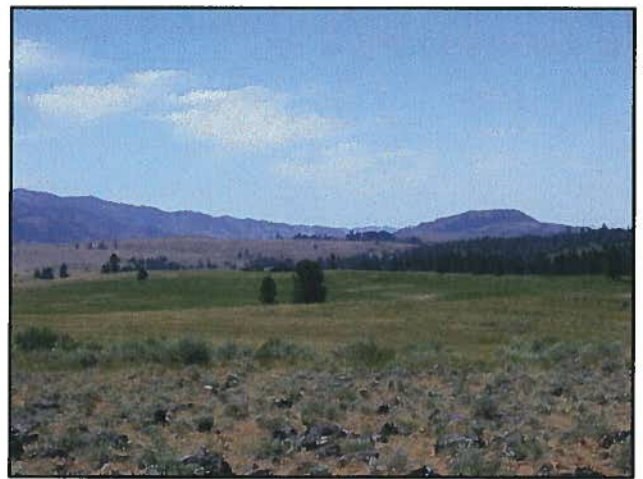
The distribution of the northern Idaho ground squirrel has become fragmented into what are now very small, isolated populations in Adams and Valley counties of west-central Idaho (Figure 2). Between about 1980 and 1997, seven populations were known to have become extirpated. For example, the Mill Creek population located on Payette National Forest lands was extirpated in 1997; the Summit Gulch population was down to one individual when it was supplemented in 1997.

Figure 2. Range and known colonies of northern Idaho Ground Squirrels in Idaho.



Nearly all of the meadow habitats utilized by northern Idaho ground squirrel are bordered by coniferous forests of ponderosa pine and/or Douglas fir. This ground squirrel is not abundant in meadows that contain high densities of small trees (Sherman and Yensen 1994). The northern Idaho ground squirrel consumes at least 45 to 50 plant species. Seeds of forbs, lupines (*Lupinus* spp.), and composites are important, while roots, bulbs, leaf stems, and flower heads are a minor component of their diet. Grasses and seeds are especially important, and it ingests large amounts of bluegrass (*Poa* sp.) and other grass seeds to store energy for the winter. It often inhabits areas with shorter, sparser vegetation than the Columbian ground squirrel (*Spermophilus columbianus*). Such areas likely contain less abundant food resources than habitats occupied by Columbian ground squirrels.

Figure 3. Typical Habitat for Northern Idaho Ground Squirrels.



The northern Idaho ground squirrel emerges in late March or early April and remains active above ground until July or early September. Emergence during this period begins with adult males, followed by adult females, and then yearlings. The northern Idaho ground squirrel becomes reproductively active within the first 2 weeks of emergence. Females and males are sexually mature the first spring after birth. They produce one litter per year of between two and seven pups, depending on the fitness of the female. Females that survive the first winter live, on average, nearly twice as long as males (3.2 years for females and 1.7 years for males). Individual females have lived for as long as 8 years. Males normally die at a younger age due to behavior associated with reproductive activity. During the mating period, males move considerable distances in search of receptive females and often fight with other males for copulations, thereby exposing themselves to predation by raptors, such as prairie falcons (*Falco mexicanus*), goshawks (*Accipiter gentilis*), and red-tailed hawks (*Buteo jamaicensis*). Significantly more males die or disappear during the 2-week mating period than during the rest of the 12- to 14-week period of above-ground activity. Seasonal torpor or hibernation generally occurs in early to mid-July for males and females, and late July to early September for juveniles.

The northern Idaho ground squirrel often digs burrows under logs, rocks, or other objects. Nesting burrows are found in soil pockets that are greater than 1 meter (3.28 feet) deep, but dry vegetation sites with shallow soils of less than 50 centimeters (19.5 inches) depth above bedrock are used for auxiliary burrow systems. Although Columbian ground squirrels overlap in distribution with the northern Idaho ground squirrel, Columbian ground squirrels prefer moister areas with deeper soils. Sherman and Yensen (1994) reported that the segregation of the two species is due to competitive exclusion as opposed to differing habitat requirements.

Current Population Status: One population of northern Idaho ground squirrels on the OX Ranch (Squirrel Manor) has been monitored by researchers and agency biologists for a number of years. The Squirrel Manor site is one of five sites that are intensively monitored each year to determine an estimate of population size and to track changes in squirrel numbers over time. This population is unique in that it surrounds a residence on the Ranch at which an almost continuous supply of dry dog food or sunflower seeds is provided, which the squirrels consume, during their active season. The total number of individual northern Idaho ground squirrels captured at the Squirrel Manor site has varied some over the last few years, with a total of 124 individuals captured during 2004, 145 captured in 2005, and 120 captured in 2007 (2005, 2006, 2007). Although the total number of individuals captured was lower in 2007 than in 2005, Evans Mack (2007, p.3) notes that “numbers could have been higher but trapping was curtailed to focus efforts elsewhere.” Population estimates for the Squirrel Manor colony were 180 in 2007 and 195 in 2008 (IDFG in litt. 2008). (Note: for the purposes of this Agreement, “colonies” and “populations” may be used interchangeably and mean areas of land with verified and existing numbers of northern Idaho ground squirrels).

B. History of Enrolled Lands

For nearly 20 years, the OX Ranch has been a cooperator in research regarding the northern Idaho ground squirrel. Much of the work that has been completed on the ranch has either led to the decision to list the species or has contributed to a fuller understanding of the species’ needs and habits that can help in recovery efforts. As noted in the Recovery Plan:

“Through access and cooperation of the OX Ranch owners and manager, researchers have intensively studied the demography of the northern Idaho ground squirrels since 1987, at four population sites: Squirrel Manor, Bear Cemetery, Squirrel Valley and Lick Creek (Sherman and Runge 2002). In 2001, the OX Ranch manager conducted a controlled burn of about 50 hectares (200 acres) in the area of the Squirrel Valley population site. Idaho Department of Fish and Game biologists are monitoring squirrel populations on the OX Ranch ... Other observations and insights about northern Idaho ground squirrel behavior and population numbers have been provided to researchers and biologists by the OX Ranch Assistant Manager.” (Service 2003).

In addition, in 1988 the OX Ranch entered into a conservation agreement with The Nature Conservancy for 300 acres along Steve’s Creek (the “Squirrel Valley” colony) that furthers both parties’ mutual desire to protect the species and contribute toward a fuller understanding of it. For this portion of the Ranch, the Cooperator agreed to refrain from excavating the site (including plowing), the use of chemicals, burning and all other actions that might harm the

species. The agreement was established for a possible 20 years, with renewal required at five year intervals. The final interval and the agreement expired October 7, 2008.

Within or adjoining the OX land covered in this Agreement are all or portions of 7 separate colonies of northern Idaho ground squirrels, encompassing approximately 278 ha (687 ac). Although some of these colonies have been studied and monitored for over 20 years, each is not monitored every year. The colonies located within or adjoining the baseline are as follows:

Table 2. Known Colonies of Northern Idaho Ground Squirrel within the OX Ranch			
Name	Status	Approx Acres	2008 Population Estimate
Rocky Comfort Flat	Extant	206	60
Lick Creek	Extant	96	50
Squirrel Manor	Extant	104	195
Tree Farm	Extant	23	43
Squirrel Valley	Extant	144	170
OX – Bear Creek West	Extant	10	15
Bear Meadow North	Extant	104	40
Totals		687	573

Squirrel colonies on the OX Ranch now constitute one of the existing 17 potential metapopulations throughout the range, generally depicted in Figure 2, 10 of which must be conserved if recovery goals are to be met (Service 2003)¹. Current population estimates indicate that northern Idaho ground squirrel numbers have remained stable or increased over the past several years. This Agreement would result in the protection of sites that are an important part of planned recovery actions, and the continuation of ranch management that has supported the expansion of northern Idaho ground squirrel colonies.

7. Baseline Determination

As noted previously, the OX Ranch has been the site of a portion of the seminal research on northern Idaho ground squirrels, some of which undoubtedly led to the listing of the species as “threatened” in 2000. The earliest of this research dates back nearly 20 years. Since then, scientists and agency personnel have regularly monitored the OX sites, seeking to track numbers of individual squirrels and changes in their populations. The resulting data from this research may suggest that this is an instance in which baseline can be calculated in terms of numbers, either of estimates of individual squirrels or of populated colonies. Others, including the resident manager for the past 30 years, conclude that trying to follow numbers of either squirrels or colonies would paint an incomplete picture of the status of the species at any given time. As Sherman and Runge noted (2002):

“The Squirrel Valley population, which numbered 272 adults and juveniles in 1987, declined precipitously and by 1999 it contained only 10 individuals.”

¹ A metapopulation is a network of population sites among which individuals can move and interact.

However, in 2004, researchers from the Idaho Department of Fish and Game estimated a minimum of 45 individuals in roughly the same site as that surveyed by Sherman (IDFG 2004).

There are undoubtedly many reasons for annual fluctuations in numbers of individual squirrels, including weather extremes from year to year, stochastic events or other external factors. In fact, OX personnel who have lived there for many years and have observed northern Idaho ground squirrels over those years are quick to point out the impact that changes in annual conditions can have. For these reasons, baseline levels were not assigned based solely on the number of squirrels or squirrel colonies as those numbers can fluctuate for reasons outside the control of the ranch managers.

For the purposes of this Agreement, a more practical method of determining baseline conditions is acres of occupied habitat, using the most up-to-date colony information available (Evans Mack pers. comm. 2009).

A. Baseline

As noted above, the enrolled lands include 3,150 ha (7,783 ac) within the boundaries of the OX Ranch. Both the enrolled lands and the lands included in the baseline calculation are private, with no inclusion of federal or state lands.

For the purposes of this Agreement, the baseline for the OX Ranch includes the acres of the enrolled lands currently known to be occupied by northern Idaho ground squirrels. The result is 247 ha (610 acres) of baseline habitat within the enrolled lands as depicted in Figure 1. The baseline represents the amount of suitable habitat that the OX Ranch will maintain throughout the term of the Agreement. It is expected that the amount of habitat in the baseline should support a minimum of 315 to 600 individual squirrels (Evans Mack, IDFG, pers. comm. 2007; Evans Mack 2009). While these specific population numbers are not considered part of the baseline, the Parties will continue to monitor their status, including any abnormal changes which might indicate unanticipated circumstances that need to be addressed.

B. Squirrel Management Area

For the purposes of this Agreement, suitable habitat for northern Idaho ground squirrels is defined as sparsely treed sites on east, southeast, south, or southwest aspects with moderate slope. Vegetation is variable, but typically includes shrubs for cover and a variety of forbs and grasses for food. Vegetation cover is moderate, with open ground visible among the plants. Sites often have a mix of shallow, rocky soils interspersed with deeper soils. Where shrub cover is lacking, natural features such as large rocks and logs or man-made features such as rock jacks may provide cover for burrows and predator avoidance. Sites are free of Columbian ground squirrels, and may occur at the edge of mixed conifer forests or on open slopes and ridge tops (Evans Mack, pers. comm. 2007).

1. Habitat Modeling -- The USDA Forest Service (USFS) and the IDFG developed a predictive model for potential northern Idaho ground squirrel habitat in 2005 and 2006. This model used four parameters associated with currently occupied sites as a predictor of other sites to be explored—vegetative cover, slope, aspect, and soil or land type.

Colony information was provided by Diane Evans Mack, IDFG, Nongame Biologist, McCall Subregion in February 2005. All sites throughout the species' range with geophysical and biological characteristics that were identical to those used to develop the model were considered "potential habitat" and worthy of further exploration. It is important to note that the data used to develop this model were rather coarse, with a resolution of 30 meters per pixel. Nevertheless, the model is useful as a coarse screen to remove parcels of land from areas that might otherwise be surveyed for northern Idaho ground squirrel presence/absence but where, in reality, it is unreasonable to expect to find actual squirrels.

Application of the USFS/IDFG model to the OX Ranch indicated that approximately 1,896 ha (4,685 ac) of the land was potentially suitable habitat for the species. While that model identified areas that are currently occupied or where verified colonies had existed in the past, it also identified numerous sites as potential habitat where there had never been sightings of the species.

In 2006, scientists with the University of Idaho developed a technology that adds a new level of precision to determining vegetative cover from aerial imagery. Basically, this includes utilizing both one-meter color photography (NAIP 2004) and Landsat infrared imagery to identify all areas across the landscape where vegetative cover was virtually identical to that present in areas currently occupied by squirrel colonies. This technique is more fully explained in Appendix C.

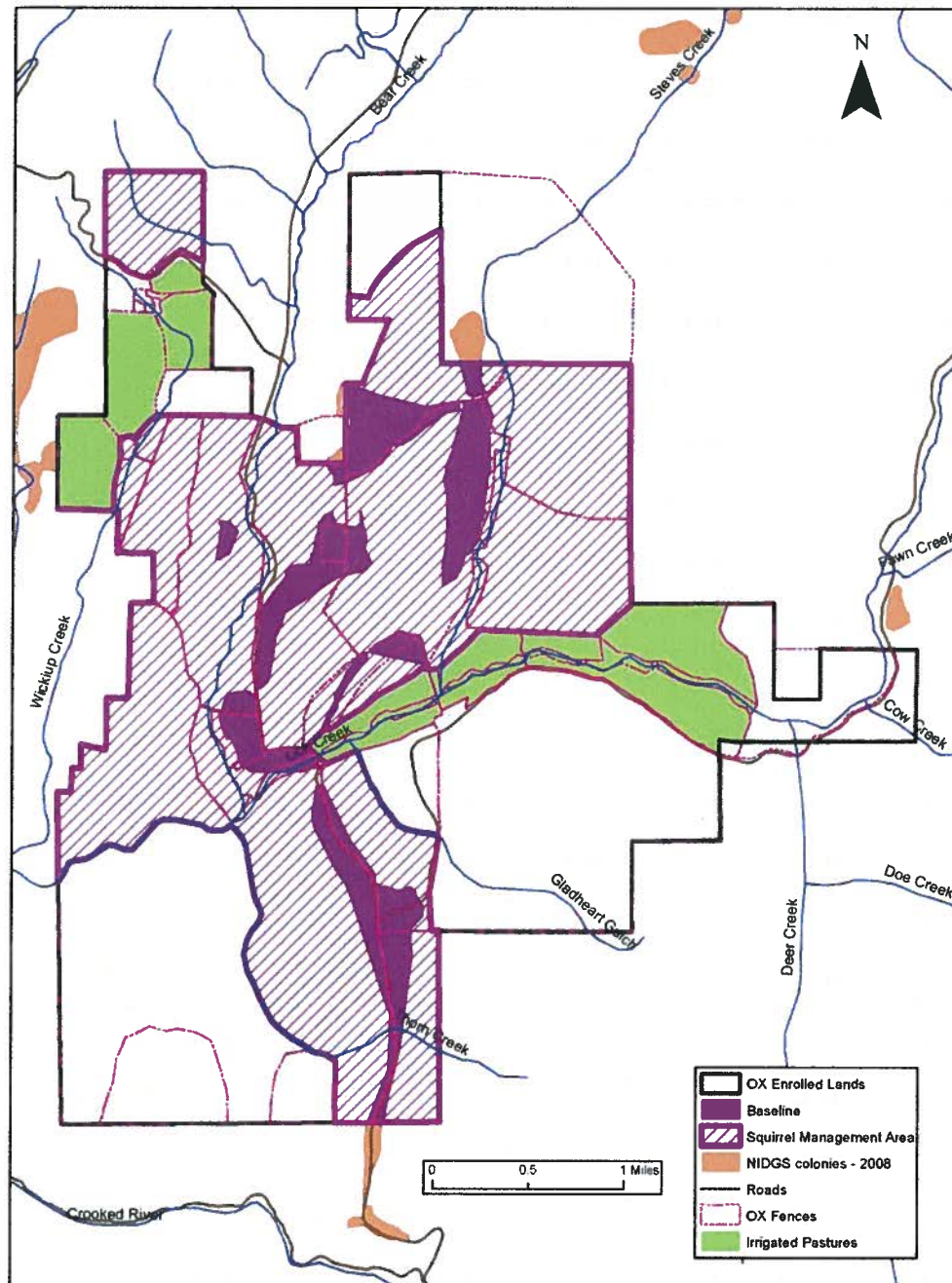
In early June 2006, representatives of the Service visited the OX site to view habitat conditions and the applicability of the University of Idaho model. They found the model to be an accurate predictor of occupied and potential habitat. In fact, a new colony of the species was found as the result of searching within the area predicted as "potential habitat" by the model.

Both the USFS/IDFG and the University of Idaho models predict potential habitat that may or may not currently be occupied. The University of Idaho model was preferred because it provided a finer scale resolution for the identification of vegetative cover overall.

2. Determination of the Squirrel Management Areas -- These areas include all 247 ha (610 ac) of the baseline, as well as a larger area within the enrolled lands. The Squirrel Management Areas are distinguished from "enrolled lands" in that they fall within 786.5 meters of the outer boundaries of the occupied colonies and they have characteristics of suitable habitat (as defined above and in the University of Idaho model). In addition, the Squirrel Management Area has been described in a manner that makes it identifiable on the ground in that its boundaries are defined by such physical features as roads, fences, or streams. It is necessary to identify both a baseline and a Squirrel Management Area for this Agreement to ensure that the conservation needs of the northern Idaho ground squirrel are fully addressed, and to ensure that the Cooperator is able to easily identify important areas for northern Idaho ground squirrels while implementing various management activities and conservation measures. The Squirrel Management Area

includes 4,227 ac and consists of the baseline habitat and those areas where future management actions and conservation measures (as described in section 8) will occur that will likely expand occupied habitat beyond the baseline levels. Appendix D includes a description of the boundaries of the Squirrel Management Area.

Figure 4. Squirrel Management Areas on the OX Ranch, Bear, Idaho



8. Management Actions and Conservation Measures for Northern Idaho Ground Squirrels

This Agreement envisions a series of management actions that will, at a minimum, maintain the baseline conditions. These management actions, coupled with conservation measures that will increase the quality or quantity of suitable habitat, will potentially increase the number of squirrels within the baseline and/or Squirrel Management Area. The future management of the lands enrolled under this Agreement and the conservation measures to be undertaken are as follows.

A. Management Actions

The Cooperators agree to maintain the current land uses and management actions described in section 5 and below. The Squirrel Management Area, which includes the baseline habitat, will continue to be grazed in the manner described in the grazing management plan, which depicts historical and future grazing regimes for the enrolled property in Appendix B.

The two main uses of the property, livestock grazing and recreation, coupled with occasional logging operations, result in the following list of management activities to be covered under this Agreement and the associated Permit. These management activities may occur across the enrolled lands. However, additional conservation measures associated with certain management activities may be applicable within the Squirrel Management Area habitat; these are described in section 8B (Conservation Measures).

1. Livestock husbandry—grazing; construction or maintenance of fences, corrals and areas where livestock are concentrated for winter feeding; branding; calving; non-chemical actions to prevent or control diseases or pests including parasites and insects that disturb livestock or cause diseases in them; disposal of dead animals; veterinary services
2. Farming operations—irrigation; cultivation and crop harvesting (currently limited to possible hay production); cultivation and reseedling of pastures including occasional discing or harrowing; brush clearance and weed control by mechanical means; non-chemical management of such pests as crop destroying insects, unwanted vegetation, and small animals for which control is not regulated by state agencies. Ongoing cultivation and reseedling of pastures, and associated farming activities (discing, etc.) will continue under this Agreement; however, these pastures will not be cultivated for the purposes of converting them to cover types or crops that are inconsistent with the historic perennial grass and forb cover types that typify the current Squirrel Management Area.
3. Logging—timber harvesting and log transport; road and skid trail construction; slash disposal through burning; prescribed fire; reforestation; thinning; tree planting and other silvicultural treatments;
4. Recreation—hunting; fishing; trail rides; winter sports; hunting; hiking
5. Construction—new buildings or remodeling of existing ones; improvement or construction of new sewer, water or electrical service; roads and road maintenance

6. Existing Residential Use—use of driveways and areas within 200 feet (61 m) of existing homes and outbuildings; pets
7. Fire Management—clearing land and running equipment such as pumpers to control wildfires; use of equipment to implement Agency-approved habitat restoration actions

B. Conservation Measures

In addition to maintaining the current land uses and management activities that have led to the establishment of the current baseline conditions, there are proactive measures which the Parties agree will increase habitat above the baseline levels, thus potentially increasing the squirrel population. Measures that are compatible with the Cooperator's ongoing management activities and expected to provide long-term conservation benefits to northern Idaho ground squirrels include the following. Conservation measures are applicable in occupied (baseline) or suitable habitats within the Squirrel Management Area, as described below. In the event that the boundaries of the Squirrel Management Area expand or change, the Cooperator will work with the Agencies to determine the appropriate conservation measures. These measures apply within the Baseline habitat over the period of Agreement implementation.

1. Obligations of the Cooperator

- a. Timber Management: Work with the Service, IDFG, and the Office of Species Conservation (hereafter referred to as the "Agencies") to implement timber-related habitat enhancement measures as described below. Areas to consider will be guided by, and compatible with, the existing timber management plan (Appendix A).

At an annual meeting (see item m below), the Cooperator will work with the Service and IDFG to review their timber management plan and identify areas for on-the-ground inspection and potential habitat enhancement measures. After such areas of potential habitat enhancement are identified, and prior to implementing any timber management actions, the Cooperator, along with the Agencies, will conduct and report on-the-ground observations to determine whether there are areas near the proposed logging sites where thinning and burning would enhance squirrel habitat. If such areas exist, the Cooperator may include provisions for completing such enhancements as part of the logging plans to be implemented. Under this Agreement, the Cooperator agrees to one of the two following activities specifically designed to benefit northern Idaho ground squirrels.

1. Over the period of the agreement, the Cooperator agrees to conduct a minimum of 15 acres of treatments for the benefit of ground squirrels. The target treatment rate is 4 ha (10 ac) in the first 5 years of the Agreement, and an additional 2 ha (5 acres) in the second 5 years of the Agreement; OR
2. Work with the Service and IDFG to identify enrolled lands that could be the subject of a study on the efficacy of habitat improvements that target northern Idaho ground squirrels. If the agencies and the Cooperator mutually agree that such a study is both feasible and desirable, the Cooperator agrees to participate, and may contribute in kind equipment, staff time, logistical assistance (e.g.,

moving cattle to accommodate study design), monitoring and observations, and/or other resources toward the completion of such study.

In addition, within the Squirrel Management Area, logging operations will be conducted during the winter months of December through March (provided the ground is frozen) to avoid compaction of burrows or the potential for conflicts between ground squirrels and logging operations. The following conservation measures will be implemented and serve as additional protection or enhancement measures for the northern Idaho ground squirrels during timber harvest activities in the Squirrel Management Area.

- Slash will be lopped and scattered and any piles will be small and well distributed throughout the project area to provide cover for squirrels and to minimize concentrated slash burns.
- Burning in occupied northern Idaho ground squirrel habitat will be restricted to after August 15 and prior to reemergence of squirrels in the spring
- Avoid log hauling through occupied habitats when northern Idaho ground squirrels are above ground. If log hauling through occupied habitats must occur when squirrels are active above ground, work with drivers and equipment operators to reduce operation speed to reduce potential impacts to squirrels.

b. Research: Continue to allow access by researchers affiliated with the Agencies to conduct research studies investigating habitat conditions; ground squirrel life cycles and biology; translocation (see item f. below); impacts of human activities, including grazing, livestock management, and vegetative control through logging, prescribed fire, or mechanical means.

c. Rodent Control: Refrain from conducting chemical rodent control within the squirrel management area, with the exception of within 100 foot (30.5 m) radius of any home or building within the squirrel management area.

If a rodenticide (Fumitoxin®) will be used within 100 feet of a home or building, and near an occupied NIDGS site, specific application procedures designed to avoid harm to northern Idaho ground squirrels will be developed collaboratively with the Service and IDFG. At a minimum, the following procedures will be conducted to minimize indirect effects to northern Idaho ground squirrels: (1) Fumitoxin® will only be used by a certified applicator, (2) Fumitoxin® will only be placed in active pocket gopher burrows, (3) the pocket gopher burrow will be dug out, the Fumitoxin® placed in the burrow under ground, and the hole covered to avoid harm to ground squirrels or other non-target species, (4) the site will be checked daily, and (5) all Fumitoxin® label instructions will be followed. Use of these methods are unlikely to impact northern Idaho ground squirrel populations since the use of the rodenticide is confined to individual gopher burrows, and will be applied only by a certified applicator. While take of northern Idaho ground squirrels from any pesticide use will not be covered under the proposed action, the Service will provide guidance to the Cooperator, on a site-specific basis, on how to avoid take of northern Idaho ground squirrels during use of Fumitoxin®. In addition, the Service or IDFG will monitor any nearby northern Idaho ground squirrel populations before and after application of Fumitoxin® to ensure no take has occurred.

d. Notification of Activities Likely to Take Squirrels: Notify the Agencies fifteen (15) business days in advance of any planned activity that the ranch managers reasonably anticipate will result in “take” (i.e., death, injury, or other harm) of the covered species on the enrolled property and provide the agencies the opportunity to capture and/or relocate any potentially affected northern Idaho ground squirrels, if appropriate. This provision does not authorize take beyond that described in section 12 below and does not apply to such emergency situations that pose immediate threats to human lives.

e. Monitoring: Carry out monitoring activities as described in Section 10 of this Agreement where the monitoring responsibilities rest with the Cooperator.

f. Agency Access: Allow the Agencies access to the enrolled lands throughout the term of this Agreement to conduct activities related to ground squirrel conservation and to otherwise implement this Agreement. These activities may include management activities and conducting ground squirrel surveys throughout the property. With the cooperation and approval of the OX Ranch, management activities may include, but are not limited to: seeding of desirable ground squirrel native food plants, prescribed burning, artificial feeding, and other ground squirrel habitat maintenance activities. The Service/IDFG may also translocate ground squirrels from OX populations should translocation be deemed necessary to aide the survival of one or more other colonies. OX’s participation and/or cooperation in translocation efforts does not impose any responsibility on OX should such activities result in detrimental impacts to NIDGS populations on the enrolled properties. Unless otherwise agreed, the Agencies will notify the Cooperator at least five business (5) days in advance of conducting any of the activities identified above when access to the property is desired.

g. Outreach: Inform guests of the ranch of the existence of northern Idaho ground squirrels, their protected status and the measures that guests shall take to minimize any negative impact they might have on the species. Cooperate with the agencies in the development and distribution of written information regarding the species and make such information available to guests and employees of the OX Ranch.

h. Shooting Prohibition: The Cooperator agrees to work with the Agencies to enforce the existing prohibitions against shooting northern Idaho ground squirrels, and if appropriate, work with the agencies to develop and install signs to discourage shooting of northern Idaho ground squirrels. Although state and federal prohibitions against shooting northern Idaho ground squirrels are currently in place, public knowledge of these prohibitions is lacking and enforcement of the prohibitions is challenging and imperfect. Assistance from the Cooperator in publicizing and enforcing the existing prohibitions will increase their effectiveness. The Cooperator will not be held responsible for funding the development and maintenance of the signs, and agrees to work cooperatively with the Agencies to install signs and obtain funds for this task.

i. Predation or Competition Notification: The Cooperator will notify the Agencies if predators (e.g., badgers) activity is noticed within existing NIDGS colonies. The

Cooperator will also notify the Agencies if new or substantial increases in Columbian Ground Squirrel activity is noticed within northern Idaho ground squirrel colonies. The Cooperator will facilitate, but is not responsible for, arranging or funding predator or competitor control.

j. Supplemental Feeding: Supplemental feeding of northern Idaho ground squirrels in the Squirrel Manor population has been occurring for a number of years, and this activity is expected to continue. However, this activity is voluntary on the the part of employees or guests of the OX Ranch, and is not a responsibility of the OX Ranch. The Cooperator agrees to notify IDFG or the FWS if they are aware that supplemental feeding activities may cease; however, the Cooperator should not be assumed to have responsibility for providing feed to the northern Idaho ground squirrels over the term of the agreement.

k. Notification of Ownership Transfer: Notify the Agencies of any transfer of ownership, so they can contact the new owner, explain the baseline responsibilities applicable to the enrolled property, and seek to interest the new owner in signing the existing Agreement or a new one to benefit listed species on the enrolled property. In the event that the Cooperator wishes to sell all or a portion of the enrolled property prior to the full term of this Agreement, they will notify the Service at least 60 calendar days in advance of the potential sale, and notify the prospective landowner of the existence of this Agreement in order for the potential new owner to decide whether to continue this Agreement. If the new landowner does not become a party to this or a similar Agreement and the permit is not transferred or a new permit is not issued, he/she will not receive the benefits of the permit authorizing incidental take of northern Idaho ground squirrels.

l. Squirrel Mortalities: Report to the Agencies within 48 hours in the event that dead, injured, or ill northern Idaho ground squirrels are observed on the enrolled property, exclusive of public rights-of-way (i.e., County roads) through the property, or conditions which, in the judgment of the ranch managers, pose a hazard to northern Idaho ground squirrels are observed. If possible, retain dead individuals for Agency collection and disposal by placing in a sealed plastic bag labeled with the date and location in which the animal was found and storing in a conventional freezer.

m. Annual Meeting: Meet with the Agencies on an annual basis to assess progress in implementing specified management activities, maintenance of baseline conditions, take of covered species that has occurred, logging plans that might provide an opportunity for habitat improvements, or other information that the Agencies may reasonably request. The Cooperator is responsible for notifying Agencies of three available dates (business days) for holding the annual meeting at a location to be determined by the Cooperator.

n. Funding: Cooperate with the Parties to this Agreement, in pursuing funding to facilitate implementation of conservation measures described herein.

2. Obligations of the Service

- a. Predator/Competitor Control: Work with the IDFG and the Cooperator to determine when predator/competitor control is appropriate, and implement remedial actions when necessary. If appropriate, control use of occupied northern Idaho ground squirrel sites by Columbian ground squirrels and badgers. This may be accomplished by staff or agents of the Service or the IDFG. If such activities are necessary, the Service or the IDFG will notify the Cooperator at least 5 business days in advance of implementing any control activities.
- b. Habitat Enhancement: Work with the IDFG and the Cooperator to develop and implement habitat enhancement projects, including thinning, burning, and seeding projects.
- c. Permit Issuance: Upon execution of the Agreement, issue an enhancement of survival permit to the Cooperator in accordance with section 10(a)(1)(A) of the Act, authorizing incidental take of the covered species as a result of the specified activities on the enrolled property in accordance with the terms of such permit.
- d. Technical Assistance: To the maximum extent practicable, provide the Cooperator with technical assistance, when requested; provide information on funding programs or opportunities, and provide assistance in developing proposals to obtain funding related to implementing conservation measures for northern Idaho ground squirrels.
- e. Monitoring: In cooperation with the IDFG and the Cooperator, conduct or support surveys and monitoring for northern Idaho ground squirrels. To the maximum extent possible, the Agencies will survey a portion of the area identified by the habitat model (Appendix C) as potentially suitable habitat each year of the Agreement. The area surveyed each year will vary depending on staff availability during the optimum survey period (April) or the next best survey period (June-July). Any populations of northern Idaho ground squirrels discovered through these surveys will be reported to other Parties to this Agreement within two business days.
- f. Supplemental Feeding: In Cooperation with IDFG and the Cooperator, provide support to the Cooperator to continue supplemental feeding of northern Idaho ground squirrels at Squirrel Manor, if deemed appropriate.
- g. Agency Access: Employees or agents of the Service will have access to the enrolled lands for the purpose of implementing the terms of this Agreement. As such, the employees/agents will act in a professional and respectful manner and will be careful to leave gates as they were found, avoid soft ground or roads with motor vehicles, refrain from harassing livestock, damaging crops or irrigation equipment, refrain from smoking while on the premises, and notify the Cooperator of their presence on the property. Nothing in this paragraph should be construed as restricting access for enforcement purposes provided for by applicable law and regulations (currently codified under 50 CFR 13.21e2).

h. Squirrel Mortalities: Respond to the Cooperator within 10 business days in the event that dead, injured, or ill northern Idaho ground squirrels are detected or if conditions considered hazardous to northern Idaho ground squirrels are observed and reported.

i. Annual Meeting: As specified under item 1m above, annually meet with the parties to this Agreement to discuss and share information, identify sites for potential habitat enhancement, and plan future activities related to the Agreement. Notes from the annual meeting, including any materials provided by the Cooperator, will be considered the "Annual Report" for monitoring purposes under this Agreement. The Service and IDFG will coordinate on development of meeting notes.

j. Funding and Technical Assistance: To the maximum extent practicable, provide the Cooperator with technical assistance, when requested; and provide information on funding programs or opportunities related to implementing conservation measures for northern Idaho ground squirrels.

3. Obligations of the IDFG

Performance of IDFG obligations outside of existing contracts under this Agreement is subject to the availability of federal funds provided to the State.

a. Predator Control: Work with the Service and the Cooperator to determine when predator/competitor control is appropriate, and implement remedial actions when necessary.

b. Habitat Enhancement: Work with the Service and the Cooperator to develop and implement habitat enhancement projects, including thinning, burning, and seeding projects.

c. Technical Assistance: To the maximum extent practicable, provide the Cooperator with technical assistance, when requested; provide information on funding programs or opportunities, and provide assistance in developing proposals to obtain funding related to implementing conservation measures for northern Idaho ground squirrels.

d. Monitoring: In cooperation with the Service and the Cooperator, conduct surveys and monitoring for northern Idaho ground squirrels. IDFG will be lead for population monitoring, with assistance from the Service and the Cooperator as needed. Population monitoring at Squirrel Manor will continue to follow established protocols (IDFG 2004, 2006).

e. Supplemental Feeding: In Cooperation with the Service and the Cooperator, provide support to the Cooperator to continue supplemental feeding of northern Idaho ground squirrels at Squirrel Manor, if deemed appropriate.

f. Agency Access: Employees or agents of the State will have access to the enrolled lands solely for the purpose of implementing the terms of this Agreement. As such, the employees/agents will act in a professional and respectful manner and will be careful to leave gates as they were found, avoid soft ground or roads with motor vehicles, refrain from harassing livestock, damaging crops or irrigation equipment, refrain from smoking while on the premises, and notify the Cooperator of their presence on the property. Any problems or concerns with the ranch or farm operations that the employees or the agents of the IDFG may witness shall be reported solely to the Cooperator.

g. Squirrel Mortalities: Respond to the Cooperator within 10 business days in the event that dead, injured, or ill northern Idaho ground squirrels are detected or if conditions considered hazardous to northern Idaho ground squirrels are observed and reported.

h. Annual Meeting: As specified under item 1m above, annually meet with the Parties to this Agreement to discuss and share information, identify sites for potential habitat enhancement, and plan future activities related to the Agreement. Notes from the annual meeting, including any materials provided by the Cooperator, will be considered the "Annual Report" for monitoring purposes under this Agreement. The Service and IDFG will coordinate on development of meeting notes.

i. Funding: Cooperate with the other Parties to this Agreement to obtain federal funding to facilitate implementation of conservation measures described herein.

9. Net Conservation Benefit

"Net Conservation Benefit" means that the conservation measures identified in the Agreement provide for an increase in the covered species' population and/or the enhancement, restoration, or maintenance of the covered species' habitat. The net conservation benefit must be sufficient to directly or indirectly contribute to recovery of the covered species.

The proposed rule to list the northern Idaho ground squirrel as threatened under the ESA (63 FR 13825), identified such threats to the species as: habitat loss due to forest and shrub encroachment into suitable meadow habitats, competition from Columbian ground squirrels, land use changes, recreational shooting, and naturally occurring events. The Agreement provides a net conservation benefit to northern Idaho ground squirrels by providing measures for ground squirrel habitat protection and enhancement, reducing predation by badgers, reducing competition from Columbian ground squirrels, and prohibiting recreational shooting. The biological goal of ground squirrel conservation measures in the Agreement is to maintain the existing northern Idaho ground squirrel populations, and to expand their extent (*e.g.*, distribution and abundance). The Agreement is expected to contribute to recovery of northern Idaho ground squirrels by reducing threats and expanding the ground squirrel population on the enrolled lands. Recovery of the species would be enhanced by increasing the viability of the populations in this area and potentially allowing ground squirrels to be translocated to other sites in need of population supplementation (Sherman *et al.* 1997).

Under the Agreement, currently occupied ground squirrel habitat will be protected by maintaining suitable habitat within the occupied areas and minimizing activities that may result

in incidental take of northern Idaho ground squirrels. The Agreement also contains provisions requiring the Cooperator and Agencies to actively seek and identify unoccupied areas that appear to have otherwise suitable habitat and implement measures to enhance that habitat and increase the likelihood of occupancy by northern Idaho ground squirrels. Specific conservation measures include, but are not limited to those described in Section 8 of this Agreement.

These conservation measures are expected to result in the following net conservation benefits to the covered species.

Habitat maintenance: Maintenance of the baseline habitat will result in a conservation benefit because removal of northern Idaho ground squirrel habitat will be prohibited below the baseline (610 ac of occupied habitat within the 4,227 ac Squirrel Management Area). As previously stated (see section 5), the only “take” that will be authorized by this Agreement and associated Permit is take of northern Idaho ground squirrels or identified habitat that is above the baseline conditions of the enrolled lands and that is incidental to otherwise lawful activities. It is important to note that any such take may or may not ever occur.

- **Habitat enhancement:** The measures described above are expected to provide and maintain high quality ground squirrel habitat (*i.e.*, meadow habitat free from tree encroachment containing plant species with high nutritional value to ground squirrels), with features (downed wood, etc.) that provide escape cover and protection from predators.

Implementation of the timber management plan and additional conservation measures identified in Section 8 of this Agreement may result in habitat enhancement/expansion for northern Idaho ground squirrels. The timber management plan will be annually reviewed by all Parties to this Agreement and habitat enhancement measures for northern Idaho ground squirrels may be incorporated into the plan. The Cooperator commits to conduct, support, or participate in a minimum of 15 acres of habitat enhancement measures for northern Idaho ground squirrels over the period of the Agreement, or to contribute resources or participate in a habitat enhancement efficacy study on enrolled lands. This commitment and the implementation of the current timber management plan make it reasonably certain that the habitat enhancement measures for northern Idaho ground squirrels will be implemented. Habitat enhancement measures implemented as part of the timber management plan and this Agreement will result in a net conservation benefit to northern Idaho ground squirrels by increasing availability of suitable habitat. In addition to the habitat enhancement measures, the Service believes that this Agreement will result in a net conservation benefit to northern Idaho ground squirrels due to habitat maintenance as described above, and the additional conservation measures described below.

Seeding of occupied areas with native forbs and grasses has not yet occurred nor been deemed necessary. The Cooperator has expressed a willingness to work with the Agencies to implement such native seeding measures in the future, if deemed appropriate. The benefits of this conservation measure remain somewhat unknown, primarily due to uncertainties regarding whether such seeding will be needed or required in the future.

In combination, the habitat maintenance and enhancement measures are expected to provide for an increase in the ground squirrel population due to protection and enhancement of habitat.

- **Predator/competitor control:** Limited control of Columbian ground squirrels is expected to result in short-term, reduced competition between the two species. Limited control of badgers is expected to result in reduced predation of northern Idaho ground squirrels. Combined with habitat enhancement measures, reducing competition with Columbian ground squirrels and reducing predation by badgers should allow northern Idaho ground squirrels to continue to exist in areas that are currently occupied, and may allow expansion into currently unoccupied areas.

Although these actions are dependent on other agency actions and thus the conservation benefits are somewhat uncertain, the Agencies have a history of working together to implement predator control, where necessary, to ensure the continued survival of northern Idaho ground squirrel populations. For example, the Service has maintained a contract with APHIS-Wildlife Services for a number of years to conduct limited predator control to protect northern Idaho ground squirrel populations. When employees of the Service, IDFG, or the Cooperator become aware of a predator occupying a ground squirrel population that is vulnerable to extirpation, the Service is notified. The Service then contacts APHIS-Wildlife Services and requests removal of that individual predator. Although continued funding for this contract is federal and therefore uncertain, the Service intends to continue the contract as funding permits, and as long as the need to protect ground squirrel populations from extirpation by predators continues.

- **Shooting prohibitions:** Installation of signs and distribution of pamphlets to inform employees and guests of the prohibitions against shooting northern Idaho ground squirrels is expected to eliminate direct shooting mortality of northern Idaho ground squirrels on the enrolled lands. Pamphlets will also contain information on the status of the species, including its State status and prohibitions against shooting and poisoning. Pamphlets will educate employees and guests about the presence of this rare Idaho endemic mammal on the enrolled lands and encourage them to play an active role in its conservation and recovery. Although funding for this effort is federal and therefore uncertain, the Service has a record of supporting the development and distribution of “no-shoot” signs.
- **Outreach:** Distribution of pamphlets on the ecology of northern Idaho ground squirrels would benefit the species by educating the public about the threats to the species and its conservation needs. Given the lack of public knowledge and awareness that currently exists for this species, additional educational outreach activities that occur through this Agreement are expected to be beneficial to the species. To date, the Service has funded the initial development, and two printings, of signs designed to inform the public of the protected status of northern Idaho ground squirrels. The IDFG has partnered with the Service repeatedly to distribute and install these signs throughout the range of both the northern Idaho ground squirrel, and the southern Idaho ground squirrel (*Spermophilus*

brunneus endemicus). It is reasonable to expect these efforts to continue, as funding allows.

- **Surveys:** Habitat modeling (Appendix C) has demonstrated that there is potentially suitable habitat for northern Idaho ground squirrels in areas of the Ranch that have not been surveyed for the species. The Cooperator's commitment to allow agency access will result in conservation benefits to northern Idaho ground squirrels by allowing the Agencies to obtain additional distributional information for the species. In addition to gaining such presence/absence information, the Agencies will gather data with which to refine the existing habitat model. Such a model refinement would simplify ongoing efforts in which the Agencies have been engaged outside this Agreement to fully describe the distribution and abundance of northern Idaho ground squirrels. Narrowing the model output of potentially suitable habitat to survey will save agency funds and help direct them to those areas most likely to support ground squirrel populations, as well as result in a more accurate habitat prediction model.

Although funding for this activity is federal and therefore uncertain, the Agencies have a record of working together to conduct surveys of potentially suitable habitat for northern Idaho ground squirrels. In addition, the Service has provided the IDFG additional funds for the past two field seasons to enable the IDFG to survey additional acreages; thereby obtaining additional distributional information.

- **Monitoring:** The Cooperator's commitment to allow agency access to continue the ongoing monitoring by IDFG of the northern Idaho ground squirrel population at the Squirrel Manor site will result in conservation benefits to northern Idaho ground squirrels. Continuing to gather productivity information will provide data with which the agencies can detect and analyze population trends; that information will be used to inform other management and conservation decisions.

Although funding for this activity is federal and therefore uncertain, the agencies have a record of working together to conduct monitoring of northern Idaho ground squirrel populations. The Service and the IDFG have jointly supported a position within the IDFG expressly focused on the conservation of northern Idaho ground squirrels for a number of years.

- **Research:** Allowing studies of northern Idaho ground squirrels to be conducted on the enrolled lands will result in increased knowledge of the species, threats, and its conservation needs. The Agencies are currently collaborating with parties external to this Agreement on the development of study proposals. As of spring 2009, the Agencies are working to begin funding these studies. These study proposals will be designed to address various data gaps and uncertainties related to northern Idaho ground squirrel management and conservation. It is unknown whether funding will be available to implement the proposed studies, however, there are a number of agencies willing to contribute funds and support the studies, if such funds are available.

Habitat improvements are expected to benefit ground squirrels within two years of treatment and could result in some increase in population levels in about two to three years following treatment (Gavin *et al.* 1998, Sherman and Gavin 1999). In general, we expect an observable benefit to northern Idaho ground squirrels at these sites within three to four years of Agreement completion and implementation of habitat management activities.

The Service has determined that Cooperator's conservation measures, as described in this Agreement will provide the net conservation benefits listed above for the covered species.

10. Monitoring and Reporting

Over the term of the Agreement, there is a need for regular monitoring of both the implementation of this Agreement and the changes in habitat or populations of northern Idaho ground squirrels on the enrolled lands. All the Parties agree to accept various monitoring responsibilities, which may be assigned as follows:

- A. The Cooperator and its personnel shall be responsible for annual reporting of implementation of this Agreement as it pertains to ranch operations, including any enhancement of baseline conditions. The Cooperator is also responsible for reporting any incidental take of ground squirrels which occurs throughout the implementation of this Agreement. Such reports of incidental take shall be made to the Agencies within 5 calendar days of its occurrence and may be made via phone, fax, or email.
- B. The Agencies shall be responsible for all population and habitat monitoring, as well as surveys to locate new or previously unknown populations of northern Idaho ground squirrels.
 - 1. Surveys for new populations: To the maximum extent possible, the Service and IDFG will survey a portion of the area identified by the habitat model (Appendix C) as potentially suitable habitat each year of the Agreement. The area surveyed each year will vary depending on staff availability during the optimum survey period (April or the next best survey period (June-July)). Any populations of northern Idaho ground squirrels discovered through these surveys will be reported to other Parties to this Agreement within five business days.
 - 2. Monitoring sentinel population at Squirrel Manor: IDFG will be lead for population monitoring, with assistance from the Service and the Cooperator as needed. Population monitoring at Squirrel Manor will continue to follow established protocols (IDFG 2004, 2006).
- C. The Service shall be responsible for ascertaining compliance of all Parties with the obligations and commitments contained in this Agreement.
- D. All Parties agree to share observations and monitoring results during an annual meeting to review this Agreement to be held at a time and place suitable to all Parties. At this meeting, the Cooperator will report on implementation of the Agreement and any incidental take that has occurred during the year. Subsequent to that meeting, the

Agencies shall distribute notes or minutes from it and those shall serve as the annual report on the Agreement and its implementation.

11. Assurances Regarding Incidental Take of Northern Idaho Ground Squirrels

The Service may not impose any new requirements or conditions on, or modify any existing requirements or conditions applicable to, the Cooperator or successor in interest to the Cooperator, to mitigate or compensate for changes in the conditions or circumstances of northern Idaho ground squirrels or their habitat as covered by the Agreement except as stipulated in 50 CFR 17.22(c)(5) and 17.32(c)(5). Provided that such take is consistent with maintaining or enhancing the baseline conditions identified in part 7A hereof, the section 10(a)1(A) permit referenced in part 8.B.2.c shall authorize the Cooperator to take the covered species incidental to implementing the management activities and conservation measures identified in sections 5 and 8 hereof.

12. Take Parameters and Limitations

A limited amount of incidental take of northern Idaho ground squirrel individuals would be authorized under this Agreement and the associated section 10 permit. A description of the adverse effects and associated incidental take anticipated is below. A complete analysis of adverse impacts to northern Idaho ground squirrels will be conducted for the issuance of the section 10 permit. Documentation of the analysis and the final biological opinion will be available at the Snake River Fish and Wildlife Office, Boise, Idaho.

A. Surveys, monitoring, and research efforts

Under the Agreement and associated permit, the IDFG and the Service will be conducting surveys, monitoring, and research activities in all currently occupied colonies, both within and outside the Squirrel Management Area. These activities could result in temporary disturbance to northern Idaho ground squirrels while surveyors are present; ground squirrels may increase the amount of time they are sheltering and decrease the amount of time they are feeding. Each survey may require up to four hours, and up to three survey and monitoring events may occur each year for the duration of the permit (10 years). An unquantified number of individual squirrels will be subjected to temporary disturbance during each of these events. Harassment of northern Idaho ground squirrels will be minimized by using only experienced personnel whenever possible. Inexperienced personnel will only be used when needed, and will be thoroughly trained and/or directly supervised. Harassment effects associated with surveys, monitoring, and research may occur within the occupied areas of the baseline acreage and Squirrel Management Area. Any surveys, monitoring, or research efforts conducted by IDFG are covered under a section 6 Cooperative Agreement between the IDFG and the Service. Any effects associated with these activities are not anticipated as part of this Agreement.

B. Predator/competitor control

Predators or competing species that move into or occur in areas that could affect northern Idaho ground squirrels may be professionally controlled (e.g., targeted trapping efforts). These corrective actions may result in disturbance of northern Idaho ground squirrels by temporarily increasing the amount of time squirrels are sheltering and decreasing the amount of time they are feeding while humans are present. The number of northern Idaho ground squirrels that could be affected depends on several factors including population size, time of day, and time of year, although all actions will be short in length (less than three hours) and infrequent. Actions associated with predator or competitor control will be carried out by Idaho Wildlife Services and their professional agents. The Service has consulted separately under section 7 with Idaho Wildlife Services on both their rodent control and predator control programs (File #140.0200). Any effects associated with these activities are not anticipated as part of this Agreement.

C. Motor Vehicle Use

Motor vehicle use by the Cooperator, Agency personnel, and others in proximity to any site occupied by northern Idaho ground squirrels may kill or injure individual squirrels. The number of squirrels that may be killed or injured by motor vehicles is expected to be minor due to the limited duration of exposure and the nature of motor vehicle use on the enrolled lands (i.e., travel primarily for ranch personnel, guests, and business and recreational activities; limited public access onto enrolled lands). Adverse effects associated with motor vehicle use may occur within the occupied areas, of the Baseline and Squirrel Management Area. Any effects to squirrels outside of the Squirrel Management Area would occur if individuals migrate through or colonize new areas of the enrolled lands. Such effects on northern Idaho ground squirrels outside the Squirrel Management Area are anticipated to be insignificant.

D. Covered Activities

Section 8.A. of this Agreement describes those management actions and Ranch activities that may occur throughout the enrolled lands and that are covered by this Agreement. The activities include: livestock husbandry; farming operations; logging; recreation; limited construction; residential use of driveways and roads; pets; and wildfire management/control activities. All of the above legal and covered activities have the potential to adversely affect northern Idaho ground squirrels by incidentally harassing, harming, or killing individuals. As under current management and operations, the Service anticipates that these activities will result in minimal adverse effects in occupied areas within the Baseline and Squirrel Management Area. Areas outside the Squirrel Management Area are not currently known to be occupied but may become occupied in the future due to natural population expansion and migration.

13. Changed Circumstances

A changed circumstance is something that is beyond the Cooperator's control that allows them to terminate the Agreement and Permit and undertake activities that will result in a return to baseline conditions. One changed circumstance is foreseeable: wildfire that threatens human life.

Wildfire: Fire is unlikely to cause an adverse effect on the habitat for NIDGS in the covered area. Fire is a necessary component of the ecosystem and is likely necessary to maintain suitable habitat for NIDGS (Yensen 1980, Haak 2002, Sherman and Runge 2002). A changed circumstance would likely occur if the habitat could not recover naturally and continue to provide habitat for NIDGS.

The Cooperator will notify the Service or IDFG if a fire covering more than 25 acres (10 ha) of unoccupied habitat (areas not currently known to contain any active northern Idaho ground squirrel burrows) within the Squirrel Management Area, or any fire that occurs on the property within habitat occupied by northern Idaho ground squirrels. Such notice will be provided as soon as possible, or within 2 business days, whichever is shorter, and may be in the form of a phone call, voice mail, or facsimile.

If wildfire occurs within occupied habitat (areas currently known to contain at least one active burrow, including suitable foraging habitat within 738 m of an active burrow) within the baseline, the Cooperator will meet with the Agencies to determine whether habitat restoration is necessary. Such meeting will occur within 10 business days after the fire is extinguished unless deemed unnecessary by the Agencies. If habitat restoration of fire damaged occupied habitat is necessary, the Agencies will, to the extent practical, obtain appropriate native plant materials, and the Cooperator will assist the Agencies in planting or sowing the plant materials. Fire damage and restoration efforts will be documented and reported in the annual report.

14. Modifications

A. Modification of the Permit. Amendments to the Permit will be made in accordance with the regulations in existence at the time the amendment is processed.

B. Modification of the Agreement. Any party may propose amendments to this Agreement by providing written notice to, and obtaining the written concurrence of, the other Parties. Such notice shall include a written statement of the proposed modification, the reason for it, and its expected results.

1. **Material Modifications.** Material changes to the Agreement shall be processed as a modification to the Permit.
2. **Minor Modifications.** Minor modifications are changes to the Agreement where the effects on the covered species would not be significantly different than under the original Agreement and would not result in additional incidental take. Minor modifications to the Agreement that do not require amendment of the Permit include, but are not limited to,

typographic and other editing changes that do not change the intended meaning, corrections to the maps or exhibits to correct errors in mapping, and minor changes to reporting protocols. Any change that is not a minor modification will be processed as a material modification. The Parties will use best efforts to respond to proposed minor modifications within 30 days of receipt of such notice.

C. Termination of the Agreement. As provided for in Part 12 of the Service's Safe Harbor Policy (64 FR 32717), the Cooperator may terminate the Agreement for circumstances beyond the Cooperator's control. In such circumstances, the Cooperator may return the enrolled property to baseline conditions even if the management activities identified in Part 8 have not been fully implemented, provided that the Cooperator gives the Service the notification required by Part 8.B.1.d above prior to carrying out any activity likely to result in the taking of the covered species. If the Cooperator terminates the Agreement for any other reason, the Permit referenced in Part 8.B.2.c above shall immediately cease to be in effect.

D. Permit Suspension or Revocation. The Service may suspend or revoke the Permit referred to in Part 8.B.2.c above for cause in accordance with the laws and regulations in force at the time of such suspension or revocation. The Service also, as a last resort, may revoke the Permit if continuation of permitted activities would either appreciably reduce the likelihood of survival and recovery in the wild of the covered species or alter designated critical habitat such that it appreciably diminishes the value of that critical habitat for both the survival and recovery of a listed species. Before revoking the Permit for either of these reasons, the Service, with the consent of the Cooperator, will pursue all appropriate options to avoid permit revocation. These options may include, but are not limited to: extending or modifying the existing Permit, capturing and relocating the species, compensating the landowner to forgo the activity, purchasing an easement or fee simple interest in the property, or arranging for a third-party acquisition of an interest in the property (50 CFR 17.32(c)(7)).

15. Additional Measures

A. Remedies. Each party shall have all remedies otherwise available to enforce the terms of the Agreement and the Permit, except that no party shall be liable in damages for any breach of this Agreement, any performance or failure to perform an obligation under this Agreement or any other cause of action arising from this Agreement.

B. Dispute Resolution. The Parties agree to work together in good faith to resolve any disputes, using dispute resolution procedures agreed upon by all Parties.

C. Succession and Transfer. Succession and transfer is governed by the applicable laws and regulations in effect at that time, currently codified at 50 C.F.R. Part 13.

D. Availability of Funds. Implementation of this Agreement is subject to the requirements of the Anti-Deficiency Act and the availability of appropriated funds. Nothing in this Agreement will be construed by the Parties to require the obligation, appropriation, or expenditure of any

funds from the U.S. Treasury or the State of Idaho Treasury. The Parties acknowledge that the Service will not be required under this Agreement to expend any Federal agency's appropriated funds unless and until an authorized official of that agency affirmatively acts to commit to such expenditures as evidenced in writing. Performance of IDFG obligations under this Agreement is subject to the availability of federal funds provided to the State of Idaho.

E. No Third-Party Beneficiaries. This Agreement does not create any new right or interest in any member of the public as a third-party beneficiary, nor shall it authorize anyone not a party to this Agreement to maintain a suit for personal injuries or damages pursuant to the provisions of this Agreement. The duties, obligations, and responsibilities of the Parties to this Agreement with respect to third parties shall remain as imposed under existing law.

F. Other Listed Species, Candidate Species, and Species of Concern. Although the Service regards it as unlikely, the possibility exists that other listed, proposed, or candidate species, or species of concern may exist on the enrolled lands or may occur in the future as a direct result of the management actions specified in Part 5 above. If this occurs and the Cooperator so requests, the Parties may agree to amend the Agreement and associated Permit to cover additional species and to establish appropriate baseline conditions for such other species.

G. Notices and Reports. Any notices and reports, including monitoring and annual reports, required by this Agreement shall be delivered in writing via fax, U.S. mail or recognized overnight courier service to the persons listed below, as appropriate:

State Supervisor, Idaho Fish and Wildlife Office
U.S. Fish and Wildlife Service
1387 S. Vinnell Way, Room 368
Boise, Idaho 83709
208-378-5243 (Telephone)
208-378-5262 (Facsimile)

Regional Supervisor
Idaho Department of Fish and Game
3101 South Powerline Road
Nampa, Idaho 83686
208-465-8465 (Telephone)
208-465-8467 (Facsimile)

OX Ranch
Mr. Casey Anderson, Manager
1095 Calf Pen Road
Council, Idaho 83612-5048
(208) 258-4351 (Telephone)
(208) 258-4241 (Facsimile)

Final
July 2009

Hixon Properties Incorporated
Attention: Office of the President
315 E. Commerce Street, Suite 300
San Antonio, TX 78205
(210) 225-3053 (Telephone)
(210) 225-5910 (Facsimile)

16. Signatures

Owner

JKR


Jack J. Spector, President, Hixon Properties Incorporated

9/25/09
Date

Lessee

Rocky Comfort Cattle Company, LLC, an Idaho limited liability company,
by its Manager, RCCC, Inc., an Idaho corporation,

By: 

George C. Hixon (Tim), President

9/28/09
Date

Agencies



Cal Groen, Director, Idaho Department of Fish and Game

8/14/09
Date



Jeffery L. Foss, State Supervisor, U.S. Fish and Wildlife Service

8/13/09
Date

17. References

- Haak, B. 2002. Northern Idaho ground squirrel population monitoring and habitat mitigation 2002 annual report. Unpublished report from the Idaho Department of Fish and Game.
- Evans Mack, D. 2004. Northern Idaho ground squirrel progress report. Idaho Department of Fish and Game, Threatened and Endangered Species Project E-28-3. Boise, Idaho. 19 pp.
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18. Appendices

- A. OX Ranch Property Forest Stewardship Plan**
- B. OX Ranch Property Grazing Management Plan**
- C. Description of the University of Idaho Suitable Habitat Modeling Techniques**
- D. Description of the Squirrel Management Area**

Appendix A. OX Ranch Property Forest Stewardship Plan

OX RANCH PROPERTY FOREST STEWARDSHIP PLAN

For

Rocky Comfort Cattle Co., LLC
1095 Calf Pen Road
Council, ID 83612
(208) 258-4351

February 8, 2006

Prepared by:

DAVID G. OSMAN
Consultant Forester
48574 Clear Creek Road
Halfway, OR 97834

LFSP INFORMATION

LANDOWNER: Hixon Properties Inc.
Leasing to: Rocky Comfort Cattle Co. LLC
dba OX Ranch

ACREAGE: Commercial Forest Land 1140
acres

OWNERSHIP CATEGORY: Corporation

COUNTY: Adams

LEGAL DESCRIPTION: Pts. Sections 7, 8, 18, 19, T19N, R2W, B.M.
Pts. Sections 1, 2, 3, 10, 11, 12, 13, 14, 24, T19N,
R2W, B.M.
Pts. Sections 34, 35, T20N, R3W, B.M.

RESIDENCY STATUS: Resident

RESOURCE PROFESSIONAL INFORMATION

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In cooperation with:
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Private Forestry Specialist
Idaho Dept. of Lands
555 Deinhard Lane
McCall, ID 83638
(208)-634-7125
(FAX) 634-5117
Email: jlillehaug@idl.state.id.us

BACKGROUND INFORMATION

The portion of the OX Ranch that this Property Forest Stewardship Plan covers is located near Bear, Idaho. Total ownership in this area is 13,911 acres of which approximately 1,140 are commercial timbered acres. These acres are the focus of this Stewardship Plan.

ACCESS:

Access is from Council via paved two (2) lane scenic county road or via the Kleinschmidt Grade from Cambridge, Idaho or Halfway, Oregon.

TOPOGRAPHY:

Elevations range from 4200' to 5000' on the timbered acres. Most timber is growing in protected situations; either in draws or North/East facing aspects. Anytime aspect varies to the hotter exposures, Dwarf mistletoe becomes a concern.

Slopes are gentle in nature with some steep ground (35% or greater). Approximately 40 acres in the Lick Cr. block fall into the steep ground category.

LANDOWNER'S OBJECTIVES:

The Timber Management Goals are to maintain the existing Old Growth trees while promoting the second growth timber to be a healthy and sustainable forest crop of trees. All activities that deal with the timber stands should be aesthetically pleasing, friendly to existing livestock operations and done in such a manner as to make the stands more resistant to fire.

SOIL:

Steve's Creek, Gladheart Gulch, Frisbee, Soda Springs and Rocky Bear tracts have the following soil description: Fine loamy soil, with brown clay subsoil. This soil is considered very stable; however, the limiting factor is compaction due to the fine loamy texture.

Lick Creek Pine and all North slope stands have a more shallow loam soil, with a sandy clay loam to silty clay subsoil. Erosion can be moderately high because of slope steepness. Compaction resistance is fair, due to course fragments.

Both of these soil types were formed from basalt bedrock and are moderately good for timber production. A common limiting factor is the moderately low ability of the soil to hold water during the hot dry summer months. This can restrict seedling survival or establishment.

WATER:

There are two Class I streams flowing through the OX timberlands. Both Lick Creek and Bear Creek have been fenced off from livestock. Three Class II intermittent streams (Steve's Creek, Cow Creek, and Gladheart Gulch) flow through the ranch timber base. There are also numerous unnamed Class II intermittent streams that are tributaries to the larger streams. Care has been taken, and will continue in operating near the appropriate stream protection zones as per the Idaho Forest Practices Act.

RANGE:

The OX Ranch is a working cattle ranch. The ranch is broken into 83 pastures, where range rotation is practiced. Landowner's objective: Range condition and management is the number one priority of the ranch ownership.

**AESTHETIC
QUALITY:**

Though a relative thing; the OX Ranch does offer some excellent views of the Seven Devils and Wallowa mountain ranges as well as the Snake River canyon lands.

RECREATION:

The ranch has entered into a recreation program for the public, using the facilities at the Seven Devils Lodge (website www.sevendevilsdodge.com). Lodging and meals, along with fishing, photography and art classes, hiking, trail rides, wing shooting and big game hunting are among the activities offered at the lodge. Landowner's objective: Share the beautiful landscape thru recreation opportunities and augment income with existing livestock operations.

FISH:

There are numerous ponds throughout the ranch which are stocked annually to offer excellent fishing experiences for our guest. Bear and Lick Creeks, along with the Wildhorse River offer exciting stream fishing experiences for lodge guests as well as the public. Fish screens have been installed by the ranch on Lick and Bear Creeks at the irrigation diversions. At the Lick Creek diversion a 3.2 mile underground pipeline was constructed to conserve water resources and maintain adequate stream flows.

WILDLIFE:

Big game species using the property include elk, deer, and bear. Upland bird species include quail, doves, turkeys, hawks and many songbirds as well as several species of smaller birds and raptors are also using this property. Big game species use this area because of the large areas of timber which provides hiding cover as well as thermal protection (both shade in the summer and heat during the colder periods). The variety of tree species and shrubs provide food for the other animals.

Timber harvest activities improve the habitat by

stimulating the vegetation growth to provide more food and cover.

TIMBER HISTORY:

Almost all old growth timber was removed by the previous ownership in the 1970's. Old Growth is currently defined as any tree that is 20 inches or greater D.B.H. or is older than 120 years. In 1987 the ranch was cruised and a timber management plan was implemented. This resulted in 450 acres being precommercially thinned between 1989 and 1991. During the fall of 1990 a shelterwood/sanitation harvest was conducted in the Frisbee tract where 242,000 board feet was removed. During the winter of 1991 a commercial thinning removed 60,000 board feet from the Gladheart Gulch block. Throughout 1995 another 105,000 board feet was salvaged because of bark beetle mortality. This volume was removed from the Steve's Creek tract and the ridge above the ranch headquarters. In 1991, 24 permanent growth plots were installed in stands that had any type of treatment. These plots were re-measured in 2001 to check if growth goals are being met. The results of this Continuous Forest Inventory (CFI) showed that the original goal of 5% growth per/annum was being met. Individual plot and stand results are in the 2001 growth study report.

Ninety-nine percent (99%) of the timber on the OX ranch is second growth. Some very nice old growth timber was obtained by a favorable land survey with the US Forest Service. Presently 75% of the timber volume is Ponderosa pine and the remaining 25% is Douglas-fir with very minor amounts of Grand Fir, Spruce and Western Larch. Volume averages in 1987 varied from 1500 to 10,000 board feet per acre with the average volume being about 3,500 board feet per acre. The 2002 Appraisal cruise (based on 920 acres) showed volume per acre ranging from 5,000 to 9,000 board feet per acre, with 7,000 board feet per acre being the approximate average. The standing volume is now approximately four (4) million board feet.

The current timber stands are uneven-aged with three basic diameter classes/age groups:

Seedling/Sapling age group: Trees range in size from one foot to 20 feet tall, have diameters up to four inches D.B.H., and ages from one to 25 years. Ponderosa pine, a shade intolerant species, makes up the largest component of this age group with Douglas fir and Grand Fir, more shade tolerant species growing underneath the denser overstory or shaded and cooler sites. Overall this age group is a small component of the timber stands.

Pole size age group: The trees range in size from four to eight inches D.B.H. and 25 to 50 years old. Most of this age group was precommercially thinned between 1989 and 1991 and is now approaching sawtimber size.

Overstory: Most of this age group is classed as second growth timber that has an average diameter of 16 inches D.B.H. and falls into two age classes: 40-70 years and 70-100 years old. There are a few locations that have old growth (120 years old or greater) trees. The ranch's greatest asset is the 40-70 year age class which is predominate.

TIMBER MANAGEMENT RECOMMENDATIONS:

One of the management objectives is to maintain or add old growth trees in certain areas. The key to accomplish this goal is providing adequate space around those trees that protect their frail existence. They need to have at least a 30 foot spacing around them to minimize competition for water, soil nutrients, and sunlight. Due to the advanced age these trees are very susceptible to stress which makes them a likely target for bark beetle attacks. Most of the stands within the timber base could be managed to grow trees that meet the old growth criteria (i.e. 20" plus D.B.H. or 120 years old). This would require some management activity to give the trees space to grow. A no treatment alternative could allow trees to reach the age criteria but not the diameter criteria. In addition the no treatment method would not meet the previously mentioned three ownership goals (i.e. stands that are aesthetically pleasing, cattle friendly, and fire resistant).

The second and primary objective is to manage the second growth timber stands since most of the timber base consists of these fast growing trees. Promoting growth on fewer trees produces healthy vigorously growing trees reduces mortality from insect attack or disease infections, and increases their rate of return. Harvest treatments will range from single tree selection in a commercial thinning treatment to small clear cut units needed to sanitize the stands from Dwarf mistletoe infection. For the single tree selection treatment a tree marking prescription such as follows could be used:

1. Leave the best form (i.e. no crooked, forked top, dead top from past insect activity, or those with less than one-third their height in live crown) trees.
2. Leave trees that would be wind firm and stout enough to withstand the high wind events that can occur in this area.
3. Slowly reduce the Basal Area per acre to between 80 and 100 square feet which is the recommended level to optimize growth and minimize bark beetle activity.
4. Create small openings to allow sunlight to reach the forest floor and provide an opportunity for tree seed to germinate.
5. Remove bark beetle infested trees and those moderately to heavily infected with Dwarf mistletoe.
6. Retain old growth trees such as "Yellow Pine" where

they have a chance to survive more than 10 years.

Individual Stand Treatments: (see map for stand locations)

Lick Creek DF, Lick Creek North Face, and Elk Hideout These 3 tracts, totaling about 228 acres south of Lick Creek Road, are heavily infected with Dwarf mistletoe in the Douglas fir. To effectively manage those tracts for timber production, small 5 to 20 acre units should be harvested using the clear cut treatment method and then replanted with Ponderosa pine. The clear cut method should treat the stand by removing the heavy Dwarf mistletoe infection and the remaining acres could be then harvested using a single tree selection. The treatment of these tracts should be the number one priority for management activity and a harvest scheduled for 2007.

Lick Creek Pine - 5 precommercial thinning units totaling 100 acres were completed in 1990. The current timber stand is 100% Ponderosa pine that averages 8500 board feet per acre with a average tree diameter of 17" D.B.H. Even though the best trees were selected to be left heavy weather related damage has occurred. Visual aesthetics due to the close proximity to the ranch headquarters and Lick Creek road must be taken into consideration when this tract is harvested. Recommend a harvest using the single tree selection method to reduce the Basal Area per acre to 60-80 square feet or an average spacing of 30'x 30' between trees. This commercial thinning should be the number two priority and be scheduled between 2008 and 2010.

Gladheart Gulch - this tract consists of about 149 acres. 4 precommercial units totaling about 86 acres were completed in 1988 and 1989. During the winter of 1991, a commercial thinning occurred on the remaining acreage. There is one small area where no management activity has occurred due to poor site conditions. The current timber stand consists of 70% Ponderosa pine and 30% Douglas fir, averages 7,000 board feet per acre, and the diameter is 16" D.B.H. There is a minor infection of Dwarf mistletoe in both species. Recommend a harvest be scheduled at the same time the Lick Creek Pine tract is done and use the same treatment method.

Steve's Creek - this tract consists of about 150 acres. 2 precommercial units totaling 43 acres were completed in 1990. During the summer of 1995 a sanitation harvest was done to capture mortality from bark beetle attacks and remove some of the heavier infected Dwarf mistletoe trees. The current timber stand is 100% Ponderosa pine, averages 5500 board feet per acre, and the average diameter is 15" D.B.H.. Dwarf mistletoe continues to be a major concern on two- thirds of this

tract.

Recommend a single tree selection method to harvest the 43 acres that were pre- commercially thinned. The commercial thinning should occur in conjunction with the Lick Creek Pine schedule and treatment standards. The remaining 107 acres should be treated at the same time using a sanitation method that removes as much of the mistletoe infection as possible.

Wise Acres – this tract consists of about 139 acres. The current stand is 100% Ponderosa pine, averages about 9,000 board feet per acre, and the average diameter is 16" D.B.H.. The stand has been relatively free of bark beetle attacks or Dwarf mistletoe infection even though the trees are growing in an overcrowded condition. Very few trees in the seedling/sapling age class have become established due to the dense overstory. Recommend a harvest that would improve the spacing between existing mature trees and regeneration opportunities. The commercial thinning should be scheduled about 2010.

Old Frisbee timber sale- this tract consists of about 46 acres, 100% Ponderosa pine and lies north of the Seven Devils Lodge. During the winter of 1991 a shelterwood/sanitation harvest was conducted to capture bark beetle mortality and leave good crop trees that would produce sufficient seed to restock portions of the stand. The seedling/sapling age class has successfully become established to be a larger component of the timber stand. A pre commercial thinning needs to be scheduled when the average height of the trees reach 15 to 20 feet tall.

This tract would be an excellent area to accomplish the management goal of letting some trees become old growth Yellow Pine due to the close proximity of the Lodge and county road. Recommend a very light harvest to remove the heavily infected Dwarf mistletoe trees and those with dead tops from bark beetle attacks. Leave all mature trees that have an excellent chance of growing into the Old Growth criteria.

Showcase- this tract consists of about 24 acres and 100% Ponderosa pine. Most of the timber stand is located on a bench east of Council-Cuprum county road and there are three residences along the east side. The soil is very thin, therefore the timber is not as productive as other sites. This timber stand should be managed to meet the Old Growth objective and install wildland urban interface mitigation measures to protect the existing residences. Recommend a timber harvest using a single selection method that would favor leaving those trees that would meet the Old Growth criteria. (i.e. 20" plus D.B.H. or older than 120 years). The commercial

thinning should also remove all mistletoe infected trees, those with dead tops from previous bark beetle attacks, and improve the overall stand vigor. Fuel reduction measures to mitigate risk from wildfire include spacing the overstory trees so that a desired range of 15 to 20 feet between crowns is met. Manually thin the pole size and sapling size age groups to an average 15 to 20 foot spacing. Prune lower branches of all remaining trees at least 4 to 6 feet above ground level. Thinned trees and debris on the ground should be piled and burned when weather conditions permit.

This tract should be used as a showcase for several forest management treatment methods. Some manual work (i.e. pre commercial thinning and pruning) has already been initiated, however additional activity needs to be completed. The mechanical harvest could occur as early as fall of 2006.

Cow Creek – consists of about 92 acres. 2 pre commercial thinning units were completed in 1989. The tract is 90% Ponderosa pine and 10% Douglas fir. Average diameter is estimated to be 13.5" D.B.H. There is no current volume/acre data. Mistletoe is not a concern in this tract. A commercial thinning to 30' x 30' is recommended after 2010.

Soda Springs – 2 precommercial thinning units totaling 56 acres were completed in 1990. This tract is 100% Ponderosa pine with an approximate average diameter of 13.5" D.B.H. There are no mistletoe concerns. A commercial thinning to 30' x 30' spacing is recommended after 2010.

Rocky Bear – consists of about 86 acres. 2 pre commercial thinning units were completed in 1990. This tract is 100% Ponderosa pine with an approximate average diameter of 10.0" D.B.H. Recommendations are the same as Soda Springs and Cow Creek tracts.

Barber Flat – 2 precommercial units were completed in 1991. Due to potential access problems crossing USFS ownership this tract may not be economically feasible to manage for timber production. This area may be better managed as wildlife habitat.

State Pasture – This tract comprises stringer type timber (100% Ponderosa pine) that is heavily infected by Dwarf mistletoe. To effectively treat the mistletoe would require total removal of the infected trees and replant. Recommend limited timber management activity that adheres to Northern Ground Squirrel habitat guidelines.

Forest Practices Act considerations: All timber harvest and pre-commercial thinning activities should have no problem complying with the current FPA rules.

Existing roads should be reviewed before entering a proposed harvest unit to determine whether there needs to be stream crossings (either permanent or temporary) installed or additional drainage structures added. Also sections of the road base may need to be relocated outside the appropriate stream protection zone.

OX RANCH TIMBER STAND LOCATIONS

Old Frisbee Timber
Sale--46 acres

State Pasture
60 acres

Wise Acres
139--acres

Showcase
24--acres

Steve's Creek
150--acres

Rocky Bear
86--acres

Soda Springs
56--acres

Cow Creek
92--acres

Lick Creek
Pine--100 acres

Gladheart Gulch
149--acres

Lick Creek D.F.
Elk Hide Out
Lick Creek North Face
228--acres

Slash Management: Proper slash treatment will greatly reduce wildfire hazard and should not impede grazing. Mechanical timber harvest should require tree length skidding where the entire tree, including the top, is brought to the landing to be processed. The slash can then be piled and burned when conditions allow (i.e. typically late fall after proper curing or drying of the needles and wood). Slash created by pre commercial thinning activities or concentrations left by a timber harvest operation could be piled "in the woods" either by hand or mechanically where necessary. Burning permits, issued by the USFS Council Ranger District, are required during the closed fire season (May 10 to October 20).

Ponderosa pine slash is a favorite food supply for the Ips bark beetle, thus timing of when it is created is critical. Recommend minimizing activity or cutting of Ponderosa pine between January and July of each year. This creates a fresh food supply for the emerging Ips bark beetle during the month of May.

Fuel reduction measures need to be undertaken along the public roads and residences within the ranch boundaries. Treatment methods include:

1. Spacing trees to adequate distance between crowns which will minimize the risk from crown fires. This treatment is highly recommended within 300' zone around all buildings. Along the public roads this treatment should be incorporated in with the scheduled timber harvest.
2. Prune lower branches, particularly the dead branches, to reduce the ladder fuel. This technique helps keep a fire on the ground vegetation where it is easier to suppress. Depending on the height of a tree, pruning is recommended from a height of 4 feet to 16 feet above ground level. The 16 foot height is especially recommended within the 100 foot zone of a residence.

Wildlife Management: Maintaining healthy trees will insure thermal protection as well as providing limited hiding cover for big game species. Trees also provide resting areas for birds, as well as a food supply. Grasses and forbs provide food supply for all species.

The 100% mistletoe stands, though economically worthless, have very many wildlife benefits including bird feed, thermal cover and escapement.

Economic Consideration: Currently most of the timber stands are producing at least 200 board feet per acre per year. The average growth rate ranges from two inches of diameter growth every five to twenty years (the latter being a very slow growth rate). Timber

management activities should be prioritized in those stands that exhibit better growth potential thereby increasing profits.

FOREST HEALTH:

Overall the health of the timber base is good. The areas that were precommercially thinned or logged have developed good stand vigor and insect resistance by concentrating growth on fewer more desirable healthy trees. Bark beetle activity has increased on the remaining acres and adjoining lands due to stress from drought and overcrowding of the timber stand. The Western Pine and Ips (Pine Engraver) bark beetles have been active, killing small groups of Ponderosa pine in this area. The Western Pine beetle normally attacks the larger trees while the Ips prefers trees less than six inches D.B.H., or tops of larger trees.

The Douglas fir bark beetle and Scotylus (Fir Engraver) bark beetle has also killed small groups of Douglas fir and Grand Fir on the property and adjacent federal ownership.

Management treatment for bark beetle control lies in maintaining the overall timber stand in a healthy, vigorously growing condition. Removal of poor quality trees and proper spacing will improve stand health by promoting growth in fewer more desirable and fast growing trees. Thinning the stands to less than 80 square feet of Basal Area per acre will effectively treat the timber stand.

Periodic inspection (especially in the spring) of the timber stands for wind or snow breakage and then prompt removal of those trees will reduce the risk of insect attack to other trees.

This area has a long history of heavy infections of Dwarf mistletoe to both the Ponderosa pine and Douglas fir. By removing the major sources of infection it will minimize the spread of this disease to young trees growing underneath or within 60 feet of the host plant. Heavy infection will slowly kill trees or put it under enough stress that bark beetle will be attracted. Effective treatment of this disease may require removal of group selection (small number of individual trees) or clear cutting larger areas.

ARCHEOLOGICAL, HISTORICAL, AND CULTURAL

The sites identified along the Council-Cuprum Road have been identified and studied. Timber activities will not effect those locations. There are no sites identified within the areas where the primary timber activities are being proposed.

The property was part of the historical Circle C Ranch,

owned by Albert Campbell, and was one of the largest ranches in SW Idaho.

WETLANDS:

Thirty one acres along Lick Creek area currently enrolled in the Riparian Conservation Reserve Program with the NRCS. Those areas are fenced and livestock are not permitted to graze in those areas. Other riparian areas along the Council-Cuprum Road and Bear Creek are also fenced away from livestock grazing, in an effort to promote cleaner waterways on the ranch.

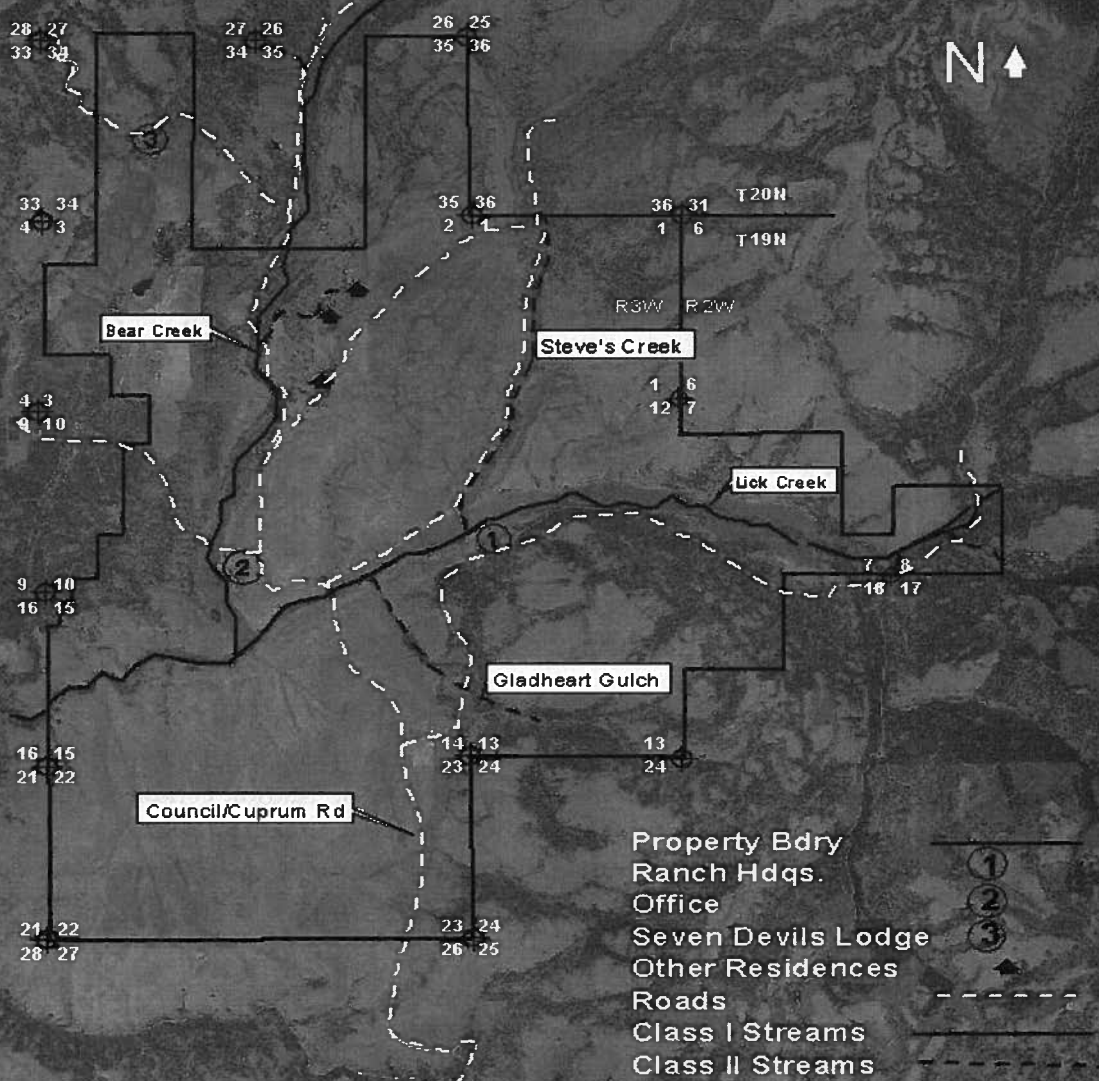
**THREATENED AND
ENDANGERED SPECIES:**

The upper portions of Bear Creek above the ranch ownership do have Bull Trout. Part of the timber base (State Pasture Tract) is Northern Ground Squirrel habitat which is listed as a threatened species. The OX Ranch has signed an agreement with the Nature Conservancy to facilitate the management of this species.

RECOMMENDED TIMBER HARVEST SCHEDULE

<u>Tract Name</u>	<u>Year Treatment</u>	<u>Silverculture</u>
Lick Creek DF, Lick Creek North Face And Elk Hideout	2007-2008	Clear cut small 5 to 20 acre units with leave tree mark. Remaining acres single tree selection method.
Lick Creek Pine and Gladheart Gulch	2008-2010	Single tree selection.
Steve's Creek	2008-2010	Single tree selection with major emphasis on removal of heavy Mistletoe infections.
Wise Acres	2010	Single tree selection.
Frisbee	2010	Single tree selection with major emphasis on leaving Old Growth trees.
Showcase	2006-2007	Single tree selection with major emphasis on fuel reduction close to residences and leaving Old Growth trees.
Cow Creek	after 2010	Commercial thinning to an average 30' x 30' spacing.
Soda Springs	same as Cow Creek	
Rocky Bear	same as Cow Creek	
State Pasture	after 2010	Sanitation harvest with major emphasis on removing bark beetle attacks or heavy mistletoe infections. Also leaving any Old Growth trees.

OX RANCH



Appendix B. OX Ranch Property Grazing Management Plan

The OX Ranch manages its cattle through a very complex rotational plan using public and private lands beginning at the Snake River below Brownlee Dam and ranging up and across to the Smith Mountain and Cuddy Mountain areas. Approximately 1,000 cattle are wintered on the Sand Hollow Ranch near Payette and then moved to the Snake River as ranges become ready for grazing, usually in mid to late March. They are grazed on the breaks and moved to the Barbour Flat area in mid to late May. From there, they are moved eastward towards the base lands at Lick Creek in late July or early August. Cattle are sorted and processed at the Lick Creek Headquarters and moved east to the higher ranges on East Lick Creek and the Bear Creek Allotments. As fall approaches, they are moved back to the base lands where the calves are branded and the cows are processed in accord with our vaccination program. They are rotated through our dry land pastures and then moved west to allotments on the Snake River until early December. Then, they are moved by truck to our lower ranch for the winter.

The calves that are born in mid May to late June remain with their mothers until winter. As the cow and range conditions dictate, the calves are weaned and put onto a back-grounding program for the remainder of the winter. In the spring, they are turned to grass and later moved to the Lick Creek Base Lands where they are moved through our irrigated lands for the summer. In some years the yearling steers (approximately 450 head) are moved onto a U.S. Forest Service (USFS) allotment for summer grazing. They are normally gathered, sorted and trucked to a custom feedlot where they remain until finished around the end of the year. The heifers are usually sorted in July with the replacements, which number around 275 head, and are rotated through irrigated pastures in preparation of the upcoming breeding season. The remaining 150 or so head are usually shipped to a custom feedlot until finished or sold off of summer pasture, depending on market conditions.

In addition to our own cattle, additional yearlings are purchased in the late winter and early spring and back-grounded at the Sand Hollow Ranch. Market conditions dictate the intensity of this stocker program but usually number in the 1,000 to 1,500 head. They are grazed at Sand Hollow until early May and then trucked to summer grass at Lick Creek, New Meadows, and Long Valley. These cattle are either sold off grass in late August and early September or shipped to custom feedlots for their finishing program which usually terminates towards year-end or shortly thereafter.

This entire program has been monitored by a 'CRMP' group consisting of representatives from the USFS, Bureau of Land Management, Idaho Department of Range, Natural Resource Conservation Service (both local and state offices), University of Idaho, IDFG, and management from the OX Ranch. Annual meetings are scheduled in the winter to review the previous year of grazing, discuss any problems, and plan for the next grazing season. Approximate dates for range movements are planned but authority and responsibility for the actual movements rest with OX Ranch Management. Detailed

reports of range movements are issued by the ranch prior to that winter meeting. This process began in the late 1980s and continues today.

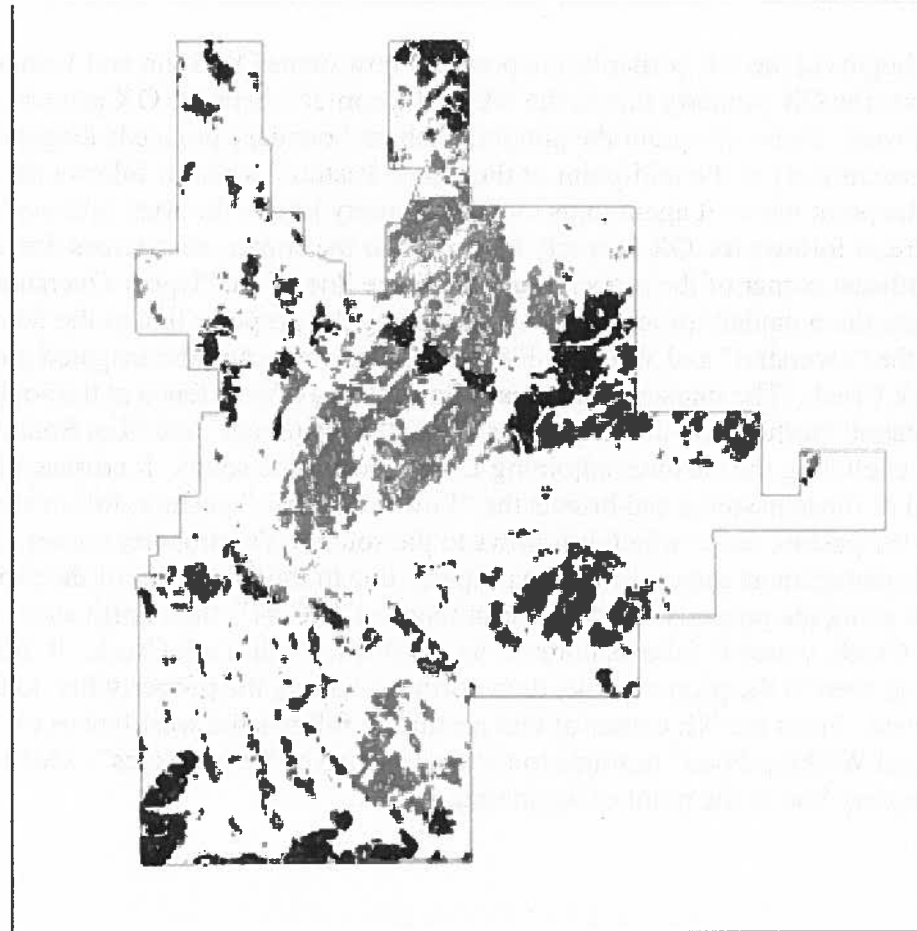
Appendix C. Methodology and Results of Aerial Imagery Vegetative Models



Vegetative data was collected in mid-May, 2006, by researchers from the University of Idaho – Moscow. The field crew established four 20 by 30 meter (m) (66 by 98 foot (ft)) sampling plots within known squirrel population areas including Squirrel Manor, Squirrel Valley South, Squirrel Valley North, and Lick Creek. Transect lines were established at 10 meter intervals and along those lines, a Daubenmire sampling quadrat (10dm x 40dm) was used as a subplot and placed along each transect at 5 m (16 ft) intervals. Species occurring within the subplots were identified and percent cover for each species was estimated. A differentially corrected GPS unit was used to gather transect endpoint geographic locations, which were used to identify the plots within aerial imagery.

With this vegetative data in hand, bands 4 and 7 of Landsat imagery were recalibrated to 1 m (3 ft) resolution and stacked with 1 m (3 ft) resolution color aerial photography through “ENVI” image analysis software. The plots were located within this imagery based on the GPS coordinates. Regions of interest (the vegetative cover as identified on the ground) were created for the plot areas, and a parallel-piped classification used to create a new image in which areas similar to the four plots within the imagery were highlighted (within 2 standard deviations of all 5 band values unique to the isolated plots). This new classification of vegetation was intersected with the U.S. Forest Service and Idaho Fish and Game model using ArcView GIS software to find all areas where the refined vegetative cover coincided with the Model’s determination of favorable soil/landtype, slope and aspect. The result represented, in essence, a combination of the Forest Service’s physical features with the U of I scientist’s refined vegetative cover.

The final step in creating a model that is more closely aligned with the OX property and the existing squirrel colonies was to integrate a component for how far squirrels might disperse from existing colonies to form new ones. Based on a twelve year study, Sherman and Runge (reference date) found that the range of individuals within these populations rarely exceeded 500 m (0.3 mile). However, more recent work with Southern Idaho ground squirrels, a species that is closely related to N. Idaho ground squirrels and similar in size and physiology, indicates that individuals may travel up to 738 meters. Therefore, it seems reasonable to assume that N. Idaho ground squirrels can also travel the longer recorded distance. Using this longer distance, the centers of the polygons of known squirrel colonies were buffered by the 738.5 meter average dispersal distance and all favorable vegetation, slope, soil and aspect parameters within this distance was identified as “potential habitat”, based upon our current knowledge of occupied colonies.

Northern Idaho Ground Squirrel Habitat OX Lick Creek Area



-  Habitat within 738.5 m of known NidGS colonies - 713 acres
-  Habitat based on vegetation, soils and topography - 1509 acres



Map coordinates : UTM, zone 11, NAD83
Date : August 2000
College of Natural Resources Remote Sensing /GIS Laboratory

Appendix D. Description of Squirrel Management Areas

The "squirrel management areas" as referenced in this agreement and shown in Fig. 1, is described as follows:

The area begins at the NE corner of the property now owned by John and Jeanne Dyer and follows the OX property line to the NE to the corner where the OX property line turns due west. From this point the potential habitat boundary proceeds diagonally to the west, approximately at the mid-point of the "State Pasture" where it follows the forested areas to the point where it again joins the OX property line to the west of Steve's Creek. From there, it follows the OX property line south to the corner, east across Steve's Creek to the northeast corner of the property and the fence line of the "Upper Overshot" pasture. From there, the boundary proceeds southward along the property line to the fence dividing the "Overshot" and Whitlow Field North" pastures and the irrigated pastures along Lick Creek. The management area follows the east-west fence at the south end of the "Overshot" pasture and the fence lines of the "SC Riparian" and "Lot South" pastures, excluding the pastures adjoining Lick Creek to the south. It crosses Lick Creek at the end of those pastures and bisects the "Lower Gladhart" pasture, following Gladhart Gulch to the pasture fence which it follows to the south to the property corner. From there, the management area follows the property line to the SE corner of the property and then west along the property line to the east fence of "RC #1", then north along this fence to Thorn Creek, which it follows north to its confluence with Lick Creek. It then follows Lick Creek west to the property line, then northward along the property line to the "Cabin Field" fence. From the NE corner of that pasture, it follows the west fences of "Wickiup House" and Wickiup Pond" pastures to the south fence of "Wise Acres", which it follows to the property line to the point of beginning.